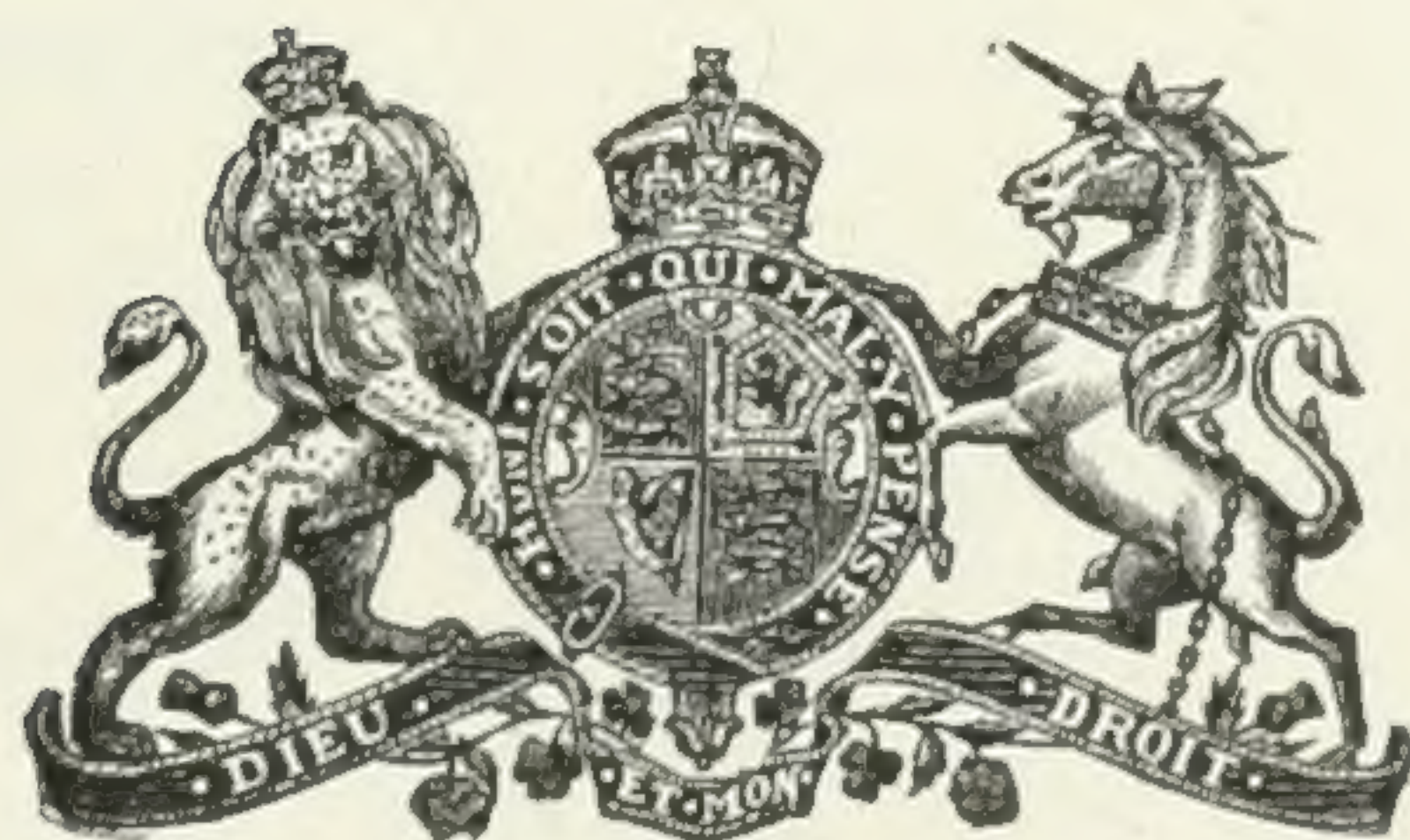


REPORT
OF THE
MINISTER OF AGRICULTURE
FOR THE
DOMINION OF CANADA
FOR THE
YEAR ENDED MARCH 31
1908

PRINTED BY ORDER OF PARLIAMENT



OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST
EXCELLENT MAJESTY

1908

TABLE OF CONTENTS

PAGE.

MINISTER'S REPORT:—

I. General remarks	5
II. Arts and Agriculture	9
Dairy and Cold Storage Commissioner's Branch	9
Extension of Markets division	13
Cold Storage division	15
Fruit division	16
Seed Commissioner's Branch	18
The Live Stock Branch	25
Experimental Farms Branch	27
Agricultural and Live Stock division	29
Horticultural division	30
Chemistry division	32
Entomological and Botanical division	34
Cereal division	35
Poultry division	37
Branch Farms	38
General crops	41
Health of Animals Branch	42
Archives Branch	46
III. Patents of Invention	58
IV. Copyrights, Trade Marks, Industrial Designs and Timber Marks	61
V. Public Health and Quarantine	62
VI. Census and Statistics	63
Appendices (see detailed index at back of report).	
Reports of Quarantine Officers (1 to 14).	
Miscellaneous;—	
Regulations under 'The Cold Storage Act' (15)	108
Regulations relating to Mange (16)	111
Canadian Quarantine Regulations (17)	114
Regulations governing the inspection of Meats (18)	130
Rules and Forms under Trade Mark and Designs Act and Timber	
Marking Act (19)	139
Rules and Forms under 'The Copyright Act' (20)	142
Report on Irish International Exhibition (21)	147
Report on New Zealand International Exhibition (22)	149
Report by Tobacco Expert (23)	154

REPORT
OF THE
MINISTER OF AGRICULTURE
1907-8

To His Excellency the Right Honourable Sir Albert Henry George, Earl Grey, Viscount Howick, Baron Grey of Howick, in the County of Northumberland, in the Peerage of the United Kingdom, and a Baronet; Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, &c., &c., Governor General of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to submit to Your Excellency a report of the Department of Agriculture for the fiscal year ended March 31, 1908.

I.—GENERAL REMARKS.

A synopsis of the work of the department and of the operations of the various branches comprised therein is laid before Your Excellency. The work in each has been efficiently carried out.

Legislation affecting the department during the fourth session of the Tenth Parliament, to the 31st of March, 1908, consisted of;—

Chapter — 7 Edward VII., intituled ‘An Act to amend the Copyrights Act.’

The following communication from the Board of Agriculture and Fisheries, with its enclosure, being an extract from ‘The Times’ of July 2, 1907, relating to the embargo on Canadian cattle, was received under cover of a despatch addressed to Your Excellency, signed by the Right Honourable the Secretary of State for the Colonies, dated July 25, 1907.

BOARD OF AGRICULTURE AND FISHERIES,

4 WHITEHALL PLACE, LONDON, S.W., July 8, 1907.

SIR,—I am directed by the President of the Board of Agriculture and Fisheries to advert to Mr. Lucas’s letter of the 8th ultimo No. 16467-1907, referring the board to the remarks made at the recent Colonial Conference by the Prime Minister of Canada as to the law regarding the importation of live cattle into Great Britain, and asking for a full expression of the views of the board on the matter for communication to the

Dominion Government, and in reply I am to ask you to be so good as to submit the following observations to the Secretary of State.

1. Experience has shown that the existing statutory requirement that all cattle imported into this country shall be slaughtered in wharfs provided for the purpose at the port of landing is no obstacle to the development and maintenance of a large and valuable trade. In the case of Argentina, the number of cattle imported into Great Britain steadily rose from 4,200 in 1891 to 85,000 in 1899, when the trade was interrupted by the discovery of foot and mouth disease in that country. The value of the imports in question was £68,000 in 1891, and £1,392,000 in 1899. During the whole of that period the requirement of slaughter was in force. The case of the United States shows similar results. The number of cattle imported thence into Great Britain in 1879 was 76,000, with a value of £1,782,000. In 1906 the number imported was 399,000 with a value of £6,937,000. Slaughter at the port of landing was required for the first time in 1879 in respect of cattle brought from that country, and has been enforced ever since. The board are glad to observe that similar results are indicated in the case of Canada, the imports from which during the past four years have been as follows:—

	No. of cattle imported.	Declared value.
1903..	190,812	£3,315,762
1904..	146,598	2,547,451
1905	148,714	2,491,144
1906..	160,688	2,765,437

In the case of Canada, the highest figure recorded prior to 1892, when slaughter at the port of landing was first required, was reached in 1890. The imports in that year were 120,469 with a declared value of £1,892,298.

2. The existing law does not cast any stigma or discredit upon Canadian cattle, for it holds good not only in the case of the United States and other foreign countries, but also in that of every British colony, including both Australia and New Zealand, whence live stock have in the past been imported into Great Britain. It is in fact a sanitary law of universal application of great importance to stockowners at home as a valuable safeguard against the introduction of disease, but not at all inconsistent with the transaction of a large and growing trade, as has been shown above. Moreover foreign and colonial buyers of farm stock for export from Great Britain rely upon the freedom of this country from imported diseases which is maintained by the Diseases of Animals Acts, and an extract from 'The Times' of the 2nd instant, is sent herewith as a recent illustration of their attitude in the matter.

3. The experience of Argentine in 1900, and more recently of the United States in 1902 has shown how suddenly and unexpectedly Foot and Mouth diseases may make its appearance in a country, quite irrespective of the maintenance of an efficient veterinary organization. In the former case diseased animals were actually imported into this country, and it was only by dint of good fortune and the most strenuous exertions that the infection was kept within the limits of the Foreign Animals wharfs. A similar result might well have happened in 1902 in the case of the United States, notwithstanding the ability and the energy of the Department of Agriculture in that country.

4. The enormous losses which British agriculturists have suffered during the last thirty years, mainly by reason of the increased pressure of colonial and foreign competition, make it more than ever necessary that every possible precaution should be taken against the introduction of diseases, consistent with the reasonable requirements of colonial producers and the interests of consumers at home. The consequence of the recurrence in Great Britain of epidemics of disease, such as have been experienced in the past, would be disastrous, and consumers as well as producers would be affected throughout the country. It is, therefore, in the general interest that no risk should be taken which can be avoided by the maintenance of a law which provides a considerable measure of security against the introduction of disease, and which at the same time does so without any serious interference with trade, and without rendering it necessary

SESSIONAL PAPER No. 15

for any action of an invidious character to be taken in regard to the cattle imported from a particular colony or country.

The Dominion Government will probably have gathered from recent public utterances of members of His Majesty's Government both in parliament and elsewhere that there is no prospect of their being able to propose any reversal of the policy of their predecessors in this matter. In this connection I am to refer to the debate which took place in the House of Lords on April 5, and May 21, 1906; to the discussion in the House of Commons on April 6 in that year on the motion for the second reading of the Disease of Animals Act (1906) Amendment Bill; and also to the answer given in the House of Commons by Sir Henry Campbell-Bannerman on May 28 last to a question put by Mr. Mond on the subject of Sir Wilfrid Laurier's remarks at the Colonial Conference.

Earl Carrington therefore suggests that the Dominion Government might be informed that His Majesty's Government regret that after the fullest consideration and for the reasons above indicated, they are unable to propose to parliament any amendment of the existing law on the subject.

I am, &c.,

(Sgd.)

A. W. ANSTRUTHER,

Assistant Secretary.

Extract from 'Times,' July 2, 1907.

The magnificent display of pedigree live stock at Lincoln last week testified in no uncertain degree to the vital importance of stock breeding to the farming industry in this country. In quality as well as in extent the show was admitted by the numerous visitors who were present from foreign countries and the colonies, to stand out above anything they have ever seen outside the United Kingdom. Nor were their assurances meant merely as agreeable compliments, for their very presence—most of them were in quest for animals of one or other of the numerous breeds—was practical proof of the sincerity of their utterances. The important point to lay to heart in connection with this great question is the necessity of firmly rejecting any alteration in the conditions under which the existing state of prosperity and success has been attained. It is significant of the far-reaching importance of the subject that foreign and colonial buyers are even more emphatic in their advocacy of a policy of protection against invading diseases than are the home stockowners. One after another of the representatives from abroad at the Lincoln show vigorously asserted that it was only by maintaining absolute freedom from devastating diseases that this country would continue to attract their custom. Many of them suffer just as Canada does from the operation of the existing laws concerning the importation of live animals, but they recognize that they derive tangible compensation in being able to come to the United Kingdom for pure bred stock with the knowledge that they incur no risk of introducing disease by so doing. At the International Conference of Sheep Breeders on the Monday an idea could be gathered of the dread which foreign and colonial buyers entertain of introducing disease with purchased animals. Several speakers referred in uncomplimentary terms to the continued existence of sheep scab in this country, and in reply to the suggestion that the quarantine regulations imposed by Australia and other countries were needlessly irksome, emphatically asserted that after the trouble and expense that had been incurred in eradicating the disease in their respective countries, they could not recommend any concession until the United Kingdom had completely suppressed the scourge. Of their action in this matter we cannot fairly complain, as it is exactly parallel to our own policy respecting foreign disease. Our costly experiences with foot-and-mouth disease, pleuro-pneumonia, rinderpest and other maladies would be valueless, if we were not to be as careful to avoid the possibility of their reintroduction as Australia is concerning sheep scab.

By an order in council of March 20, 1907, authority was granted to Canada to adhere to the International Agricultural Institute to be established in Italy.

8-9 EDWARD VII., A. 1909

By an order in council of April 17, 1907, there was established an Historical Manuscripts Commission for Canada with a view to place on a sounder and broader basis the historical work done by the Dominion Government.

By an order in council of May 1, 1907, in virtue of the provisions of chap. 75 of the Revised Statutes of Canada, 1906, it was ordered that section 68 of the Regulations relating to Animals Quarantine and Health of Animals established by an order in council of January 14, 1907, should not apply to the ports of Margaree and Cheticamp in the province of Nova Scotia.

By an order in council of May 3, 1907, in virtue of the provisions of the Cold Storage Act of 1907, Your Excellency was pleased to approve of the regulations made in pursuance of the provisions of that Act. (See Appendix 15).

By an order in council of May 6, 1907, the resignation of Mr. Newton Wolverton, B.A., superintendent of the Experimental Farm at Brandon, Manitoba, was accepted, to take effect from June 1, 1907.

By an order in council of May 6, 1907, Mr. James Murray, B.S.A., of Regina, Saskatchewan, was appointed superintendent of the Experimental Farm at Brandon, said appointment to date from June 1, 1907.

By an order in council of May 9, 1907, Mr. J. A. Ruddick, the Dairy and Cold Storage Commissioner, was appointed to represent Canada at the third International Congress of Dairying held at The Hague, in the month of September, 1907.

By an order in council of June 10, 1907, in virtue of the provisions of section 28, chap. 75, R.S.C., 1906, the regulations authorized by order in council under date July 23, 1906, for the eradication of the disease of mange in cattle in the provinces of Saskatchewan and Alberta, were rescinded and new regulations substituted therefor. (See Appendix 16).

By an order in council of June 12, 1907, in virtue of the provisions of section 3, chap. 74, R.S.C., 1906, intituled 'An Act respecting Quarantine,' the quarantine regulations established by order in council of August 18, 1898, were rescinded and new regulations substituted therefor. (See Appendix 17).

By an order in council of July 10, 1907, the following amendments were made to the regulations relating to Animals Quarantine, established by Order in Council of January 14, 1907:—

1. Section 3 of said regulations is amended by expunging the word 'Quebec,' and adding the following sentence to said section 3, 'Quebec is also declared to be an animals quarantine station, in so far as importations into Canada by sea are concerned;'

2. Section 52 of the said regulations is rescinded and the following substituted therefor: '52. Animals other than swine may be admitted on inspection at quarantine and inspection ports only for purposes of exhibition or other temporary stay, subject to the usual customs regulations.'

By order in council under date August 21, 1907, in virtue of the provisions of section 20, chapter 27, 6-7 Edward VII., intituled, 'An Act respecting the inspection of meats and canned foods,' Your Excellency was pleased to approve of the regulations made in pursuance of the provisions of that Act, the same to come into force on September 3, 1907. (See Appendix 18).

SESSIONAL PAPER No. 15

By order in council of October 25, 1907, it was found necessary, owing to the revision and consolidation of the statutes of Canada, that the rules and forms under the Trade Mark and Design Act and the Timber Marking Act, established by order in council of May 9, 1887, should be amended and new rules and forms substituted therefor. (See Appendix 19).

By order in council of November 25, 1907, Robert C. Ruddick, Esq., M.D., of St. Martins, New Brunswick, was appointed inspecting physician of the St. John, New Brunswick, quarantine station (Partridge island) vice John Edgar March, Esquire, M.D., deceased.

By order in council of December 3, 1907, the rules and forms under the Copyright Act, approved by Your Excellency on April 12, 1887, were rescinded and new rules and forms substituted therefor. (See Appendix 20).

The participation by Canada in the Irish International Exhibition held in Dublin, during the past year (opening on May 11, and closing on November 9, 1907), resulted in a very creditable display of the Dominion's natural products and resources, attracting much attention. A report of this exhibition by the commissioner, Mr. Wm. Hutchison, will be found as an appendix hereto. (See Appendix No. 21).

In my annual report for the fiscal year ended March 31, 1907, reference was made to Canada's participation in the New Zealand International Exhibition held in Christchurch, which was marked with great success. A report of this exhibition by the joint commissioners, Mr. T. H. Race and Mr. W. A. Burns, will be found as an appendix hereto. (See Appendix No. 22).

It is with deep regret that I have to record the death of Dr. John Edgar March, who for many years was inspecting physician at St. John, N.B. He died on April 3, 1907.

I have also to report the death of Mr. David A. Routhier, who died on May 9, 1907. He had been a first-class clerk in the Patents Branch of the department for over forty-five years.

It is most gratifying to learn from the report of Mr. Charlan, the French expert, that the result of his labour in connection with Canadian tobacco is very encouraging, and that the prospects of this industry in Canada are increasing.

Appended is the report submitted by Mr. Charlan for the twelve months ended March 31, 1908. (See Appendix No. 23).

II.—ARTS AND AGRICULTURE.

DAIRY AND COLD STORAGE COMMISSIONER'S BRANCH.

This branch of my department, which is administered by Mr. J. A. Ruddick as Dairy and Cold Storage Commissioner, includes the divisions of dairying, fruit, extension of markets and cold storage. Although there is a separate staff for each division, composed of officers with expert knowledge of the various lines of work, and these have assigned to them certain specific duties, there is, owing to the close relation in the work of the several divisions, much co-operation in carrying on the work as a whole, all of which promotes efficiency and economy.

8-9 EDWARD VII., A. 1909

The branch of the Dairy and Cold Storage Commissioner deals more particularly with the commercial side of the various industries which it touches, and is not equipped or provided with facilities for carrying on experimental work, although special arrangements are made from time to time, as may be required. The publications of the branch are written in popular form, and are not descriptive of experiments or investigations, as a rule.

PUBLICATIONS.

During the year under review the following bulletins of the Dairy and Cold Storage Commissioner's series have been prepared and published:—

No. 15.—Gathered Cream for Buttermaking.

No. 16.—Subsidies for Cold Storage Warehouses.

No. 17.—Buttermaking on the Farm.

No. 18.—Co-operation in the Marketing of Apples.

No. 19.—The Packing of Apples in barrels and boxes.

No. 20.—The use of Ice on the Farm.

No. 21.—Cow Testing Associations.

A report of the District of Huntingdon Dairymen's Association was edited and published.

A map showing the approximate location of all the cheese factories, creameries and combined factories in Canada was prepared and published, with the assistance of Mr. James White, geographer of the Department of the Interior.

A Monthly Fruit Crop Report was compiled from information supplied by a large number of correspondents representing every fruit district in Canada. It was published from May to October, as usual.

A report of the Dairy and Cold Storage Commissioner will be published as an appendix to this report, giving the details of the work of the branch and other information of interest to dairymen, fruit growers and others.

MEETINGS.

The several officers of the branch have attended and given addresses at numerous agricultural, dairy and fruit meetings during the course of the year.

For the sake of clearness, further reference to work of this branch will be made under the heads of the four divisions.

DAIRYING.

The season of 1907 was marked by very dry weather and consequent shortage of feed in some of the most important dairy districts. Quite a large number of dairy cows were disposed of during the early part of the winter, because the owners found it impracticable to supply the necessary feed to carry them through. The high level of prices which prevailed, especially for cheese, during the manufacturing season, and for

SESSIONAL PAPER No. 15

butter during the winter months, has been some compensation for the shortage in milk. On the whole, the year has been a fairly satisfactory one for the dairymen.

The relatively high prices paid for cheese during the manufacturing season had the effect of inducing many of the combined factories to make cheese instead of butter. This fact, coupled with the increasing home demand, has resulted in materially reducing the exports of butter; so much so that the record for the season of 1907 is the lowest for many years.

INCREASED HOME CONSUMPTION.

Although the total exports of dairy produce for the year ended March 31, 1908, show a considerable falling off as compared with previous years, if the increased home consumption is taken into account it will be seen that the total production of milk has not shown any decrease. A fair estimate of the increase in the value of the home consumption of butter, cheese and milk for 1907, over that of 1900, places it at \$10,000,000. If this amount were added to the value of the exports for 1907, the total would be in excess of any previous record.

OFFICIAL REFEREE OF BUTTER AND CHEESE.

An officer of the Dairying Division was stationed at Montreal during the season of 1907, and acted as Official Referee of Butter and Cheese. During the whole season he was requested to examine only 288 lots of cheese and 40 lots of butter. In view of the comparatively small number of requests received, it is doubtful if I shall be justified in having an officer assigned to this duty in the future.

THE SHIPPING OF GREEN CHEESE.

The practice of shipping green cheese has given rise to very strong protests from the merchants in Great Britain, who point out that the trade will be seriously injured if this sort of thing is continued. The Dairy and Cold Storage Commissioner, who is in close touch with questions of this kind, has lost no opportunity of warning the dairymen and all others concerned against a continuance of a practice which constitutes so serious a menace to the cheese trade.

DAIRY LEGISLATION.

A Bill will be submitted to parliament in which it is proposed to amend the Inspection and Sale Act as follows:—

No person shall

(a.) incorporate in a new cheese, during the process of its manufacture, any inferior curd or cheese; or

(b.) knowingly sell, expose, or have in his possession for sale without giving due notice thereof, any cheese in which has been incorporated during the process of its manufacture any inferior curd or cheese; or

(c.) place in a cheese during the process of its manufacture, or at any time thereafter, any foreign substance of any kind.

COW TESTING ASSOCIATIONS.

The principal active dairy work carried on during the year by the Dairy Division was that which has for its object the improvement of dairy herds and is a continuation of the work of the cow testing associations. During the year 1907 there were 56 cow testing associations in operation, comprising 26 in Quebec, 24 in Ontario, 1 in Prince Edward Island, 2 in Nova Scotia and 3 in British Columbia. In addition to the various associations, a large number of dairymen, who are not in a position to join an association, have taken the matter up on their own account and are now keeping records of their cows. The cheese factories and creameries are being encouraged to undertake the work of testing cows for their patrons, and it is hoped that some progress will be made along this line during the coming season.

THE ASSISTANT DAIRY COMMISSIONER.

The Assistant Dairy Commissioner, Mr. J. C. Chapais, devotes his time and energies largely to the French districts of the province of Quebec, and resides at St. Denis (en bas). Mr. Chapais attends a large number of meetings during the year, giving addresses on dairying, fruit growing and general agricultural topics. He has also assisted in the course of lectures at the St. Hyacinthe Dairy School and visited, in company with the inspectors, a number of the cheese factory and creamery syndicates in the province of Quebec.

DOMINION OF CANADA—EXPORTS OF DAIRY PRODUCE—HOME CONSUMPTION.
CHEESE.

Year ended June 30.	Quantity.	Value.	To Great Britain.	To United States.	To France.	To Ger- many.	Other Foreign Coun- tries.	B.N.A. Prov- inces.	British Indies.
	Lbs.	\$	\$	\$	\$	\$	\$	\$	\$
1868	6,141,570	620,543	548,574	68,784	.....	.....	891	1,594	340
1880	40,368,678	3,893,366	3,772,769	114,507	.....	.....	170	5,710	210
1890	94,260,187	9,372,212	9,349,731	6,425	.....	370	2,154	12,777	755
1891	106,202,140	9,508,800	9,481,373	13,485	.....	.....	1,954	9,104	3,884
1892	118,270,052	11,652,412	11,593,690	39,558	2	.....	2,124	12,942	4,091
1893	133,946,365	13,407,470	13,360,237	23,578	.....	.....	2,689	18,679	2,297
1894	154,977,480	15,488,191	15,439,198	9,552	.....	173	3,036	21,948	14,284
1895	146,004,650	14,253,002	14,220,505	5,058	.....	16	5,463	9,785	12,175
1896	164,689,123	13,956,571	13,924,672	10,359	299	.....	4,861	7,509	8,871
1897	164,220,699	14,676,239	14,645,850	4,486	94	24	5,365	11,954	8,457
1898	196,703,323	17,572,763	17,522,681	14,604	.....	1,428	6,889	12,784	14,377
1899	189,827,839	16,776,765	16,718,418	17,739	.....	.....	11,701	13,293	15,614
1900	185,984,430	19,856,324	19,812,670	4,836	.....	.....	8,774	16,651	13,393
1901	195,926,397	20,696,951	20,609,361	37,601	465	12	15,375	16,603	17,534
1902	200,946,401	19,686,281	19,620,239	12,038	.....	1,179	14,133	20,100	18,602
1903	229,099,925	24,712,943	24,620,004	7,779	.....	170	18,942	21,334	44,714
1904	233,980,716	24,184,566	24,099,004	5,386	44	.....	23,810	21,754	34,568
1905	215,733,259	20,300,500	20,174,211	14,182	700	364	39,696	35,171	36,176
1906	215,834,543	24,433,169	24,300,908	16,082	7,203	.....	52,455	30,992	25,529
Ended March 31.									
*1907	178,141,567	22,006,584	21,909,879	6,900	.....	54	38,337	37,748	13,666
1908	189,710,463	22,887,237	22,763,736	17,732	10	3	42,431	35,792	27,533

* 9 months

SESSIONAL PAPER No. 15

· BUTTER.

Year ended June 30.	Quantity.	Value.	To Great Britain.	To United States.	To France.	To Ger- many.	Other Foreign Coun- tries.	B.N.A. Prov- inces.	British Indies.
	Lbs.	\$	\$	\$	\$	\$	\$	\$	\$
1868.....	10,649,733	1,698,042	534,707	1,015,702	.....	1,496	14,870	95,777	26,986
1880.....	18,535,362	3,058,069	2,756,064	111,158	.....	.....	24,710	163,290	2,647
1890.....	1,951,585	340,131	184,105	5,059	.....	.....	29,342	119,989	1,636
1891.....	3,768,101	602,175	440,060	10,054	.....	20,447	24,021	101,649	5,944
1892.....	5,736,696	1,056,058	877,455	6,038	.....	5,160	27,207	133,770	6,428
1893.....	7,036,013	1,296,814	1,118,614	7,539	.....	1,175	35,042	127,412	7,032
1894.....	5,534,621	1,095,588	936,422	6,048	1,125	.....	25,560	109,263	14,170
1895.....	3,650,258	697,476	536,797	5,365	.....	267	35,028	108,439	11,580
1896.....	5,889,241	1,052,089	893,053	2,729	.....	9,370	34,299	105,472	7,166
1897.....	11,453,351	2,089,173	1,912,389	6,233	.....	8,513	33,490	115,754	12,794
1898.....	11,253,787	2,046,686	1,915,550	3,738	.....	17,574	31,619	51,045	27,160
1899.....	20,139,195	3,700,873	3,526,007	3,984	.....	12,384	41,810	74,813	41,875
1900.....	25,259,737	5,122,156	4,947,000	5,044	.....	7,210	43,176	66,069	53,657
1901.....	16,335,528	3,295,663	3,142,353	5,839	.....	.....	39,675	44,986	62,810
1902.....	27,855,978	5,660,541	5,459,300	41,149	.....	101	36,109	47,066	71,816
1903.....	34,128,944	6,954,618	6,554,014	10,225	.....	13	198,381	69,017	112,968
1904.....	24,568,001	1,724,155	4,400,774	6,497	14	25,644	75,014	88,422	127,790
1905.....	31,764,303	5,930,379	5,568,999	70,580	14,440	.....	113,650	82,387	80,323
1906.....	34,031,525	7,075,539	6,802,003	33,965	4,155	.....	100,048	48,283	87,085
Ended March 31.									
*1907.....	18,078,508	4,011,609	3,805,925	3,539	.....	.....	86,316	56,516	59,313
1908.....	4,786,954	1,068,703	823,761	38,899	.....	.....	85,741	34,931	85,371

* 9 months.

EXTENSION OF MARKETS DIVISION.

During the past year the inspection work of the Extension of Markets Division, which has for its main object the improvement of existing transportation facilities for the food products which we export, has been carried on by about the same staff as heretofore. Seven inspectors were employed for the full year, and eleven additional inspectors for the period from May 1st to November 30th, distributed as follows:—Seven cargo and three refrigerator car inspectors at Montreal; three travelling refrigerator car inspectors in Ontario and Quebec, and five cargo inspectors at ports in Great Britain.

During the season from May 1 to November 30, this division has carefully looked after the operation of the iced car services for butter, and maintained a close inspection over the loading of all perishable produce shipped from the port of Montreal. The inspectors placed thermographs in the refrigerator chambers and in the ordinary holds of the steamers, in order to secure records of the temperatures maintained in these different compartments during the voyage. In the old country our inspectors attended the discharge of each cargo of Canadian produce, reporting its condition, method and manner of discharge, &c. These inspectors also removed the thermograph charts and forwarded them to the chief of the division at Ottawa where copies were made and sent to the steamship agents, the Board of Trade, Montreal, and to the engineers of the steamers concerned. An exact record was also kept of the temperature of a number of packages of butter in each lot loaded into the steamers at

8-9 EDWARD VII., A. 1909

Montreal and the temperature of the same packages when discharged on the other side.

A cargo inspector was present each time the Empress steamers were loaded at Quebec and one was stationed at Halifax during the winter months to look after the loading of apples and to place thermographs in the steamers carrying fruit. Copies of these records of temperatures were sent to the Secretary of the Nova Scotia Fruit Growers' Association and to the interested steamship agents at Halifax.

Full particulars of the work of the cargo and iced car inspectors will be found in the annual report of the Dairy and Cold Storage Commissioner, published as an appendix to this report.

IMPROVED PORT FACILITIES AT MONTREAL.

Seven of the new freight sheds were in use for the first time last season and they were a great improvement over the old wooden sheds. The new sheds are built on a level with Common and Commissioner streets and are permanent structures of steel and concrete, two stories high. Railway tracks are laid along one side of the sheds so that freight can be removed from the cars to the sheds instead of having to be carted a considerable distance, as was the practice in the past. Seven sheds were finished this spring and seven more are under way. When these are completed stevedores will be able to carry on their work to much better advantage and our inspectors will be in a position to insist upon a still greater degree of care in the handling of perishable goods.

IMPROVED PORT FACILITIES IN GREAT BRITAIN.

When this department first undertook to inspect the condition of our food stuffs when landed at the principal old country ports the facilities there were vastly different to what they are to-day. At London, our butter was delivered to lighters, miles down the river, and our cheese at Tilbury dock from where it was railed to Commercial Road Station, and thence carted to destination. This meant that the cheese was handled five times in thirty-five miles, resulting in great damage to boxes and exposure to heat. Something over two years ago all this was changed and since then our butter and cheese have been discharged at the Surrey Commercial Dock, which is within two miles of Tooley street, the centre of the dairy produce trade in London. At this dock the butter is delivered direct into a cold storage chamber, and the cheese and bacon into cooled air rooms.

Until last season conditions at Liverpool were very unsatisfactory. Our butter was discharged from the steamships into freight sheds on the docks where it remained in some cases for days before it was removed. Since 1903 my department has been endeavouring to have better facilities provided, and last year our efforts bore fruit as the Canadian Pacific Railway Company erected a cold storage warehouse of four chambers, with a total capacity of 60,000 cubic feet on the dock where their steamers are berthed, and in the future, as far as the Canadian Pacific Railway line is concerned, the facilities at Liverpool will be similar to those afforded at the Surrey Commercial Dock, London.

SESSIONAL PAPER No. 15

At Avonmouth, the port of Bristol, our butter is handled with good despatch, but at Glasgow I regret to say conditions are not so satisfactory and there is little prospect of any immediate improvement.

COLD STORAGE DIVISION.

The Department of Agriculture has continued the policy of paying a bonus of \$100 to the owners of creameries who erect and equip a small ice cold storage, according to plans and specifications supplied by the Dairy and Cold Storage Commissioner, and who fulfil certain conditions in the matter of maintenance. During the year ended March 31, 1908, thirty-nine applications were received for this bonus. Of this number thirteen failed to comply with the necessary conditions of construction or maintenance, leaving only twenty-six to whom the bonus has been paid.

ICED CAR SERVICES.

The various iced car services which have been in operation now for several years, were continued during the season of 1907. Owing to the changes in the butter trade, it was necessary to rearrange the service to some extent, in order to avoid excessive loss on the guarantee basis. The records of temperature as secured by the inspectors of the Markets Division, were lower for 1907 than in any previous year, thus showing that the service is being gradually improved. It has required considerable education on the part of creamery managers, station agents and train men to get the best possible service out of the refrigerator cars. The inspectors employed by this branch, who travel continually with these iced butter cars pointing out defects in the operation of the service and reporting cases of negligence to the proper officials, have been the means of securing much improvement.

Iced cheese cars, on which my department paid icing charges to the extent of \$5 per car, were supplied by the railway companies on demand of shippers, to the extent of about 110 cars per week for ten weeks, beginning the second week of July.

The iced fruit car service has not been taken advantage of by the fruit shippers as much as it was expected it would be when it was inaugurated. These cars are supplied in the same manner as the cheese cars are.

OCEAN COLD STORAGE.

It is needless to refer at any length to the cold storage services provided on the steamships sailing from Canadian ports. These services are now so general and so well understood, that further reference would appear to be unnecessary. The Department of Agriculture has not paid any subsidies or bonuses for cold storage on steamships for several years past. There were 47 steamships sailing from the ports of Montreal and Quebec for British ports during the season of 1907, which were equipped with cold storage compartments.

The department continues to supervise the loading and stowing of perishable products and thermographs (recording thermometers) are placed in the various chambers with butter, cheese, meats, fruits, etc. Three hundred and eight of these records were secured during the year.

As a consequence of the large shrinkage in our exports of butter, the cold storage accommodation in steamers sailing from Montreal last season was not used to anything like its capacity, but a splendid service was nevertheless maintained by the different steamship companies. Generally speaking, the butter was delivered to the steamers at Montreal at a lower temperature than in previous years, and was discharged at the ports of London, Bristol, Glasgow and Manchester at a lower temperature than formerly.

Fewer pears were exported in 1907 than in 1906, but those shipped in cold storage were landed in excellent condition. One or two shipments of Keiffer pears were forwarded in ordinary storage, but were found to be over-ripe when discharged on the other side and inclined to slight waste.

SUBSIDIES FOR COLD STORAGE WAREHOUSES.

Applications were received from several companies and firms for the subsidy which is payable under the terms of the Cold Storage Act. Only two of these applications, so far, have been approved of, namely, that of the New Brunswick Cold Storage Company, St. John, N.B., and Scott, Ashton & Co., Morrisburg, Ont. Other applications are under consideration. The New Brunswick Cold Storage Company's warehouse has been completed and the first instalment of the subsidy has been paid. My officers inform me that this is a first-class warehouse of approved 'slow burning' construction and well equipped with modern machinery. It is expected that a large business will be done in handling fish, cheese and apples. The promoters expect to have apples shipped from the Ontario orchards to St. John, before the cold weather begins, to avoid the risk and loss occasioned by the freezing of apples when shipped to Great Britain via St. John, during the winter months.

FRUIT DIVISION.

INSPECTION AND SALE ACT.

The Fruit Division has been engaged largely with the enforcement of the Inspection and Sale Act as far as it is related to fruit and fruit packages.

The greater number of inspections are made at the points of Montreal, Halifax and St. John. A large number of inspections is made also at Winnipeg, Manitoba. This is rendered possible from the fact that Winnipeg is an important distributing point for the Northwest provinces.

INSPECTIONS.

Below are given statistics of inspection for the past seven years:—

	1901-2.	1902-3.	1903-4.	1904-5.	1905-6.	1906-7.	1907-8.
No. of lots inspected	1,468	1,470	1,964	1,641	2,813	2,440	7,352
No. of packages in lots inspected	65,880	154,220	234,343	212,348	330,681	330,866	981,632
No. of packages inspected ..	3,155	8,341	10,702	8,798	11,423	13,406	43,243

SESSIONAL PAPER No. 15

The following table gives the statistics of convictions since the inception of the Act:—

CONVICTIONS.

—	1901-2.	1902-3.	1903-4.	1904-5.	1905-6.	1906-7.	1907-8.
Ontario.....	9	15	23	6	22	22	155
Quebec.....	1	1	1	.....	6	.....	2
Nova Scotia.....	2	6	10	3	16	14	21
New Brunswick.....	.....	.....	5	.....	1	.....	.....
Manitoba.....	.....	14	2	2	1	1	.....
British Columbia.....	.....	.....	2	1	4	3	.....
	12	36	43	12	50	40	178

Notwithstanding the crop reports issued by the Fruit Division, apple buyers for the season 1907 underestimated the quantity of apples and offered prices early in the season beyond what the markets would warrant. The result was that a large quantity of inferior fruit was stored and shipped that would have been utilized in other ways had the prices been lower during the picking season. The attempt to realize the price which was paid for the fruit by grading it higher than it deserved, accounts, for the most part, for the large increase in the number of prosecutions made this year.

FRUIT PACKAGES.

There was no serious violation of Part IX. of the Inspection and Sale Act referring to fruit packages. The trade in early fruit and the convenience of importing fruit packages from the United States when there is a shortage in Canada, complicates the enforcement of the Act slightly; notwithstanding, very few packages appeared upon the market improperly marked.

FRUIT CROP REPORTS.

The Fruit Crop Reports were published regularly at the end of each month during the fruit season. The facts collected proved of very great advantage to the grower as well as to the trade generally.

Buyers from Great Britain and the United States, influenced by the reported shortage of apples in the apple producing districts of other countries and particularly of United States, came to Canada and offered prices for winter fruit that would only have been justified by a failure in the crop in Canada. The latest crop report of the Fruit Division indicated a crop of winter apples slightly above the average. This information was verified at the picking season.

FRUIT MEETINGS AND DEMONSTRATIONS IN PACKING.

Sixty-seven meetings were attended by members of the Fruit Division staff. In addition to these meetings some of the inspectors were engaged during the growing months in giving individual instruction in the orchards.

8-9 EDWARD VII., A. 1909

Short courses in horticulture were held at Truro Agricultural College, Macdonald College, St. Anne de Bellevue, and at the Ontario Agricultural College, Guelph. Members of the staff gave instruction in packing and marketing fruit at each of these colleges.

SEED COMMISSIONER'S BRANCH.

The work of the Seed Branch has continued along the same general plan as that followed during previous years. A great deal of it has been an innovation in educational work in agriculture, and being much needed, the services rendered by my Seed Commissioner and his staff of trained experts, have been appreciated by the farmers in all parts of Canada. It is already evident that, as a result of the educational propaganda that has been conducted by this branch of my department, substantial progress has been made in the production and use of cleaner and better seed grain and other seeds, and in the suppression and eradication of noxious weeds. The main object of this work is to increase the yield and improve the quality of field and garden crops.

THE SEED SUPPLY AND THE CROP OF 1907.

The cereal crop of 1906 was a satisfactory one, and from it a supply of good sound seed for last season's crop was available. The crop of 1907 was, on the whole, fairly satisfactory, although the spring was unusually late. Some of the districts in the western provinces suffered severely from the prolonged cold of the early spring, and the cool and rather moist weather of the summer months. As a result, the crops over a part of Manitoba, Saskatchewan and Alberta were late in maturing; the oats and barley, in particular, were seriously injured, for the purpose of seeding, by the early frosts. As soon as information was received that in some districts the crop had been injured by frost, I instructed the officers of the Seed Branch who are permanently located in the western provinces to thoroughly investigate the matter and determine the extent of the injury done. They were directed to institute a vigorous campaign of instruction, in order to prevent the use of apparently sound seed oats or barley, which had been frozen and rendered worthless for seeding, the use of which would endanger the crop of 1908.

A large number of samples of grain from the unfortunate districts were collected by my officers and submitted to germination test. Many samples were also sent in by the farmers themselves. Early in January the results of these germination tests of oats and barley, together with summary information as to the effect of using frozen seed grain, were printed in bulletin form and 60,000 copies were distributed to farmers. Arrangements were made for compiling the names and addresses of farmers, in districts where the crops were not injured by frost, who had good clean seed wheat, oats or barley in quantity for sale. The data thus obtained were printed in a pamphlet and generally distributed early in March of this year to the farmers who were forced to purchase their supplies of seed grain.

INSPECTION OF THE SEED GRAIN DISTRIBUTED.

On account of the condition of the money market, it was evident early in January, and even before that time, that the farmers whose grain had been injured for seeding

SESSIONAL PAPER No. 15

would not be able to negotiate loans that would enable them to procure their supplies of seed grain; and it was ultimately deemed advisable that the interested governments should co-operate in procuring and distributing seed grain to them. All the information that had been compiled by the Seed Branch was made available for that purpose, and the services of its officers were utilized in inspecting the grain purchased, in respect to its purity, and in making germination tests of the vitality of all seed about which there could be any question. For that work it was necessary to provide competent seed inspectors at London and Liverpool, in Great Britain, Pictou in the province of Nova Scotia, Kingston, Toronto, Ottawa and Fort William in Ontario, Winnipeg and Brandon in Manitoba, Regina and Moose Jaw in Saskatchewan, and Calgary and Edmonton in Alberta. Only seed grain of apparent good quality and of the standard of purity definitely fixed for the guidance of the inspectors was accepted by them.

THE SUPPLY OF GRASS AND CLOVER SEED.

On account of the partial failure of the clover seed crop for 1906 in the province of Ontario, the supply of clover seeds for the Canadian market was not as large nor of as good a quality as it would otherwise have been. The price too was unusually high. Quite large importations of red clover seed were made by seed merchants. The supply of timothy seed for the past year was about normal, and large quantities of timothy and other grass seeds were used because of the shortage and consequent high prices of clover seeds.

It is somewhat unfortunate to have to record that the clover seed crop of 1907 was also considerably below the average in quantity produced, although the quality of the red clover seed harvested during the past season is rather above the average in point of purity. The supply of grass and clover seeds from other countries where they are produced is also reported to be short, and it is anticipated that the price of grass and clover seeds will continue to be high during the coming spring months.

In general, the supply of seed corn, field root and garden seeds available to farmers last spring was of satisfactory quality. Some complaints have been made by onion growers because of onion seed sold by the retail trade that was not suitable for use in Canada. Careful inquiry has shown that such importations of onion seed were thought to be necessary because of the partial failure of the crop at the best sources of supply for Canadian use.

ENCOURAGEMENT TO SEED GROWING.

As a means to increase the yield and improve the quality of field and garden crops, special attention has continued to be given to the production of high class seeds of those crops that are grown for seed in Canada. My department has been able further to encourage and co-operate with the Canadian Seed Growers' Association in the production and selection of high class seeds of cereal grains, corn, potatoes and other farm crops. So far as the conduct of its business is concerned, this association is quite apart from the Seed Branch, but the educational work of the association is largely a part of the duties of this branch.

8-9 EDWARD VII., A. 1909

The Seed Commissioner, through the staff of expert officials who are permanently located at district headquarters, has assisted with the organization and conduct of ninety seed fairs during the past season. These are held during the winter and early spring months. Exhibits of seed grain grown by the farmers in the locality, and held for sale by them in quantity, are shown in competition. It is usual for the agricultural societies, under whose auspices seed fairs are conducted, to provide prizes for the best exhibits. My department provides competent judges to award such prizes and to give lectures. These seed fairs have been successfully held during the past six years and have largely increased in numbers and usefulness.

Competitions in standing fields of seed grain, consisting of not less than ten acres, were inaugurated at the instance of the Seed Branch, commencing two years ago in the western provinces. Sixty field competitions have been conducted during the past season and were extended to the province of Ontario, where five-acre fields were made eligible for entry. They have proven to be an effective means of awakening interest in the production and selection of good seed grain and have had a wholesome educational influence. I have authorized that the plan of conducting them be continued and enlarged upon for the eastern provinces. The Seed Branch organizes a corps of competent judges, who meet in conference, for training in the use of score cards, directly prior to judging. This is done free of cost to the agricultural societies, which conduct these competitions.

Special meetings of seed growers were held during the month of June in the districts of eastern Canada where grass and clover seeds are most largely produced. The object of these meetings was to give practical instruction, particularly about weeds and their eradication, at a time of year when weed and other plant growth is most in evidence. These seed growers' field meetings, many of which are held in the open air and in fields in which a seed crop is being produced, have proven to be exceedingly beneficial, and it is expected that they will be continued.

CONDITIONS OF THE SEED TRADE.

The retail seed trade in Canada is conducted in part by professional seedsmen, but a large portion of the business is done by grocers, druggists and other persons, whose main business is of an entirely different character. The number of men who devote a large share of their attention to the seed business has increased, and it is reasonable to expect that the further development of agriculture will be associated with an increase in the business of seedsmen.

A comparatively small part of the seed of cereal grains used in this country enters into the commerce of seeds, and the trade in Canada may be said to consist largely in purchasing grass and clover seeds from growers, recleaning them, and distributing them, either directly or through the medium of local seed vendors. In addition to the trade in grass and clover seeds, supplies of seed corn, field root, and garden seeds are gathered together by wholesale seedsmen, the greater part of them being imported from Europe and the United States, and distributed through the various channels of the trade.

SESSIONAL PAPER No. 15

While it is but fair to state that the seedsmen and seed vendors of Canada are as honourable and reliable as are those of any other country, the work of investigation into the condition of the seed trade, conducted by the Seed Branch, clearly indicates the need for continued watchfulness of the quality, in respect to both purity and vitality, of the various kinds of seeds that are sold in the retail trade; and I have instructed that this work of investigation be continued and that wanton carelessness or unscrupulous acts on the part of seed merchants be exposed, either as provided by the Seed Control Act, or if not covered by that Act, through publication of the results of such investigations. The crop losses that result through the use of seed that is foul with noxious weeds, or seed that is exceedingly low in percentage of vitality, amounts to very considerable in the aggregate; and it is expedient that every reasonable means be taken clearly to impress upon seed merchants the need for great care to prevent repetition of such crop losses.

THE SEED CONTROL ACT.

The Seed Control Act came into force in September, 1905. During the first year of its administration it was used as a basis for a vigorous educational campaign among seed merchants, who were provided with copies of the Act, the import of which was clearly explained to them by seed inspectors, who visited them at their places of business during the season of the seed trade. When found to be exposing seed for sale in violation of the Act, seed merchants were summarily warned that a repetition of such violation would not be excused. During the season of 1907 this educational campaign was continued. It was found necessary to enter prosecutions on eighteen counts against twelve seed merchants, which prosecutions were conducted during the months of June and July. There is no doubt in my mind but that this educational work, supplemented by prosecutions under the Act where necessary, has resulted in securing a general observance of the provisions of the Act on the part of seed merchants and farmers in general. Now that the Act may be said to be generally understood, on account of its operation during the past two years, the members of the seed trade will have less reason to expect lenient treatment when they are found by inspectors to have violated the provisions of the Act.

SEED COLLECTIONS.

In order better to enable the members of the seed trade to conform to the provisions of the Act, I authorized that comprehensive collections of weed seeds be provided to them at a nominal cost, which collections contain specimens of seeds of all of the noxious weeds that are legislated against in the Act. It is gratifying to know that seed merchants have appreciated this service and have availed themselves of the privilege of securing the means which better enable them to comply with the Act; and also that very few of the seed merchants who have provided themselves with these reference collections of seeds have been found thereafter to have unlawfully sold seed grain or other seeds containing the seeds of these noxious weeds.

SEED LABORATORIES.

The seed laboratories at Ottawa and Calgary, Alta., have tested 13,924 samples of seeds, for purity or germination or both, during the past fiscal year. This shows

8-9 EDWARD VII., A. 1909

a very large increase in the services rendered, and, in consequence, I found it necessary to augment the staff of temporary assistants employed in this work during the winter and early spring months.

A large proportion of the samples tested consisted of cereal grains sent in for germination test from the provinces of Manitoba, Saskatchewan and Alberta, and the increase of samples tested is of an extraordinary nature. When the normal seasonal conditions obtain in those provinces, a comparatively small number of samples are submitted for germination test, and it is not anticipated that the demand on the part of farmers for services from the seed laboratories will continue to be so great as has been during the past season. It is gratifying to be able to state that, on the whole, reasonably prompt service was rendered to both seed merchants and farmers who desired information about the quality of their seed. During the months of January and February some slight delays occurred in issuing reports on germination tests, but the information concerning all samples submitted was forwarded to farmers in ample time for seeding operations.

In addition to the 8,645 samples which were tested in the Ottawa seed laboratory, for farmers and seed merchants, six hundred and thirty samples were collected by purchase from the retail trade in all of the provinces, for the purpose of investigating the conditions of the trade in seed corn, field root, and garden seeds. The following tables give a summary of the work conducted in the seed laboratories for the year ended March 31st:—

SESSIONAL PAPER No. 15

SEED CORN—FIELD ROOT AND GARDEN SEEDS.

RESULTS OF INVESTIGATION.

Kind of Seed.	Number of Samples Tested.	PER CENT OF GERMINATION.				NUMBER OF SAMPLES.	
		Min.	Max.	Average.	Standard for good seed.	Vitality up to standard for good seed.	Vitality less than $\frac{2}{3}$ of standard for good seed.
Corn (Sweet).....	39	48	100	85	95	4	5
" (Field).....	66	42	100	90	95	29	2
Asparagus.....	1	.....	.....	66	85	.....	.....
Beans.....	10	60	100	84	90	3	.....
Peas.....	13	33	98	87	97	2	1
Beet.....	42	96	297	168	160	20	4
Mangel.....	31	9	263	203	160	21	5
Cabbage.....	27	62	98	82	93	3	.....
Cauliflower.....	6	90	99	97	90	6	.....
Kale.....	2	69	88	79	90	.....	.....
Radish.....	35	51	100	89	95	17	2
Rape.....	2	95	100	98	95	2	.....
Turnip.....	72	16	100	71	95	26	8
Carrot.....	60	2	97	70	80	15	21
Celery.....	12	3	70	38	50	5	7
Cress.....	5	84	100	94	.....	.....	.....
Citron.....	3	80	100	90	92	2	.....
Cucumber.....	19	67	98	86	90	6	.....
Musk melon.....	5	72	99	85	90	2	.....
Pumpkin.....	8	74	100	89	96	5	.....
Squash.....	13	76	100	87	90	6	.....
Watermelon.....	11	56	98	78	90	1	1
Leek.....	5	11	76	40	.....	.....	.....
Onion.....	31	26	97	85	90	5	4
Lettuce.....	20	76	100	95	90	16	.....
Parsley.....	6	25	85	50	65	1	2
Parsnip.....	22	10	68	42	65	1	11
Pepper.....	5	38	82	52	.....	.....	.....
Rhubarb.....	5	64	89	79	.....	.....	.....
Sage.....	6	60	92	70	.....	.....	.....
Savory.....	4	21	39	31	.....	.....	.....
Thyme.....	2	.....	.....	71	.....	.....	.....
Marjoram.....	1	.....	.....	73	.....	.....	.....
Salsify.....	10	19	92	50	85	2	7
Spinach.....	7	25	93	46	90	1	3
Tobacco.....	1	.....	.....	53	.....	.....	.....
Tomato.....	14	62	100	85	90	5	.....
Total samples tested....	621	.....	.....	.....	.....	91	76

SAMPLES TESTED FOR SEED MERCHANTS AND FARMERS AT THE OTTAWA SEED LABORATORY.

Kind of Seed.	Maritime Provinces.	Quebec.	Ontario.	Western Provinces.	Foreign.	Total.
Red Clover.....	32	465	402	3	7	909
Alsike.....	23	80	212	.....	2	317
Timothy.....	32	154	228	5	8	427
White Clover.....	3	38	4	.....	.....	45
Alfalfa.....	.....	4	17	1	.....	22
Mixtures of clovers and grasses.	2	6	9	1	.....	18
Grasses.....	.....	19	22	13	.....	54
Roots and vegetables.....	1	8	556	10	.....	575
Flowers.....	.....	.....	23	.....	.....	23
Other kinds.....	1	1	44	2	.....	48
Cereals.....	19	176	72	5,905	1	6,173
Flax.....	.....	.....	2	32	.....	34
Total.....	113	951	1,591	5,972	18	8,645

SAMPLES TAKEN BY SEED INSPECTORS AND TESTED UNDER REGULATIONS OF SEED CONTROL ACT.

	Red Clover.	Alsike.	Timothy.	Mixtures.	Cereals.	Total.
Ontario	88	7	6	6	1	108
Quebec	15	.....	.....	.....	7	22
New Brunswick	24	.....	2	.....	.....	26
Nova Scotia	6	.....	.....	.....	.....	6
Total..	133	7	8	6	8	162

Out of a total of 162 samples taken, 145 were suspected by the inspectors of being exposed for sale in violation of section 8 of the Seed Control Act, which reads as follows:—

‘No person shall sell, or offer, expose or have in his possession for sale, for the purpose of seeding in Canada, any seeds of timothy, alsike or red clover, or any mixture containing the said seeds, if the seeds of the weeds named in this Act are present in a greater proportion than five to one thousand of the seed sold, or offered, exposed or held in possession for sale.’

PUBLICATIONS.

The results of investigation work in connection with the trade in seed corn, field root, and garden seeds have been compiled and published in bulletin form for general distribution.

Summary results of the field competitions conducted in the western provinces, and also in the province of Ontario, were compiled, printed and distributed to the interested farmers in the respective districts.

A pamphlet giving the names and addresses of farmers who exhibited high class seed grain at sixty-three of the seed fairs in the provinces of Manitoba, Saskatchewan and Alberta was published early in March and distributed generally to the farmers in those provinces. The information contained in the pamphlet showed the total quantity of seed held for sale by the exhibitor and its condition in respect to both purity and vitality. This bulletin was issued this year because in parts of those western provinces the unfavourable climatic conditions had made the seed supply unreliable.

During the month of June circulars were issued to 25,000 farmers in the provinces of Quebec and Ontario, relative to the supply of clover seeds and outlining some precautions that would have to be observed in order to secure a reasonably good supply of desirable seed to meet the requirements of the trade for the coming season.

‘FARM WEEDS OF CANADA.’

I am very glad to have been able this year to issue an excellently illustrated and carefully prepared book dealing with the farm weeds of Canada. An edition of 15,000 copies has been received from the printer, and these are being distributed in a way to benefit the greatest number of people. The many favourable comments which I have

SESSIONAL PAPER No. 15

received concerning the excellence and usefulness of this publication has been a source of gratification to me. Copies of it have been sent to all the public libraries and to the educational institutions in Canada that are above the grade of elementary schools. An additional supply of 10,000 copies has been ordered. As soon as these are available for distribution, they will be sent to the rural schools in Canada in which libraries are maintained, for use as a reference book on noxious weeds for the teachers, pupils and farmers of the school districts. In order to meet the demand for this book from these public institutions, I found it necessary to withdraw it from general distribution to individuals, much as I should like to have provided every farmer in Canada with a copy of it.

THE LIVE STOCK BRANCH.

The Live Stock Branch, which, in July, 1906, was united for administrative purposes, under the control of the Veterinary Director General, with the Health of Animals Branch, the work of these two branches being very similar and having many points of contact, has during the past year been developed to a considerable extent.

The final steps in the organization of the National Records, with the exception of the admission of such new records as may from time to time seek incorporation, have been taken by completing the absorption of the old provincial records, which differed slightly in some respects from those at first nationalized. More or less difficulty was in some cases encountered in bringing about the desired assimilation, but all obstacles have been overcome with the happy result that there is not now in Canada more than one record of an official nature for any breed of live stock. The greatest trouble met with was in the province of Quebec, where not only were there two original records, viz.: those for French Canadian horses and French Canadian cattle, but where the rules of entry or registration for other classes of live stock, especially sheep, differed to a considerable extent from those recognized as authoritative in the other provinces. By the exercise of patience and the adoption of a policy of education and explanation, the questions in dispute have been settled in a manner satisfactory to all except a very few breeders, who were unfortunate enough to own animals the breeding of which could not be traced sufficiently far to entitle them to registration in the established records.

It was found necessary in order to bring about these results, to organize a small commission for the purpose of inspecting and examining into the breeding of such French Canadian horses as it was desired to record in the book of record organized for that breed. This commission was composed of two representatives of the French Canadian Horsebreeders Association, and two gentlemen representing my department, and with them travelled one of my veterinary inspectors, who also acted as secretary for the commission. The work done so far has been exceedingly satisfactory, and although not quite completed, will reach a conclusion early in the coming year, it having been decided to accept no horses for entry in this book after December 31, 1908. It is to be hoped that the efforts of the association, coupled with those of the department, will be successful in re-establishing on a sound and permanent basis, the old French Canadian breed of horses which, owing to the indiscriminate admixture of other blood has, of recent years, been threatened with extinction.

8-9 EDWARD VII., A. 1909

It was found necessary to follow a somewhat similar policy, although on a much smaller scale, with regard to the various breeds of sheep in the province of Quebec. These sheep had been registered in the old provincial records, the standard of which was not quite equal to that recognized by the sheepbreeders' associations elsewhere in the Dominion. This condition of affairs necessitated careful inspection of flocks and equally careful investigation as to the eligibility of the individuals for registration. By employing the services of an expert judge of sheep to visit all the flocks, the qualification of which for registration was in dispute, it has been found possible to admit to the national records all but a very few of the animals formerly recorded under provincial associations.

A number of new records have been organized, among which may be mentioned those for Percheron horses, Belgian horses, and Ponies. The work of the National Records Office is proceeding smoothly and satisfactorily, as is evidenced by the fact that practically no complaints are being received from any part of the country, and that this organization which, needless to say, involves the safety and welfare to a greater extent than all other factors combined, of the great stock breeding industry of Canada, is being conducted under the wing of this branch of my department not only without friction but almost without any one being made publicly aware of its existence.

A great deal of work has, as usual, been done by the Live Stock Branch in furnishing expert judges for fairs and speakers for institute meetings, as well as instructors for live stock judging classes. Many different series of meetings have been held, some organized by the Live Stock Commissioner himself, and many others by the various provincial departments of Agriculture with whom the officers of this branch of my department invariably co-operate when requests for their services are made.

The benefits resulting from these meetings have been very great, especially in the province of Quebec, where much interest has been manifested by farmers in advanced methods of agriculture and especially in the development of the live stock industry. In the Maritime Provinces also much good work is being done by the holding of institute meetings, and judging schools, at which our live stock experts delivered addresses and officiated as teachers, by the supplying of trained judges for live stock at various fairs and by the Amherst Winter Fair, which held under the auspices of the Maritime Stock Breeders' Association, with the assistance and support of the Live Stock Branch of my department, has been of incalculable benefit in arousing and maintaining interest in live stock production.

In Saskatchewan, Alberta and British Columbia much good has also been accomplished along similar lines, many of the new settlers having had but little experience in practical agriculture, being greatly encouraged and assisted by the advice of the experienced stock men sent out by my department, and by their practical demonstrations in the matter of live stock judging.

A new departure has been made by the present Live Stock Commissioner in devoting considerable attention to the interests of those agriculturists engaged in the production of live stock for commercial purposes as distinguished from those who confine their operations to the breeding of pedigreed animals.

SESSIONAL PAPER No. 15

Speaking generally, it may be said that among the farmers of Canada those engaged in the production of pure bred stock are well able to look after their own interests, being as a rule men of advanced ideas who from the nature of their transactions naturally and rapidly acquire a knowledge of modern business methods. On the other hand, the farmer who produces stock solely for commercial purposes is not unfrequently a loser owing to his lack of expert knowledge of the requirements of the market, the actual value of his produce or the conditions attending the sale, handling and transportation of live stock between the producer and consumer. With a view of improving matters in this regard, and protecting as far as possible the interests of the producer, steps have been taken to obtain and place in his hands all possible information likely to be of use to him in disposing of his produce.

This work is still in progress, but will to a limited extent be complete during the coming year, with, I trust, beneficial results to all concerned.

The establishment of the Record of Performance in the case of pure bred dairy cows is progressing favourably, the work having increased to such an extent as to render necessary the constant employment of another inspector in Ontario and Quebec, while in some of the outlying provinces work of the same kind is being performed by officers of the Dairy Branch, acting on behalf of the Live Stock Commissioner.

A number of valuable bulletins on live stock subjects have been issued during the year, while several productions of the same kind are at present in course of preparation.

Perhaps the most important event of the year, so far as this branch of my department is concerned, was the holding in Ottawa during February last of the large and representative Convention of the National Live Stock Association. The last meeting of this body was held in 1905, and I considered it advisable in view of the large interests involved, and of the great progress and development which has since taken place throughout the Dominion to again bring together the accredited representatives of the various live stock and record associations, so as to afford them an opportunity of exchanging views and discussing matters of general and special importance. The meeting, which lasted three days, was an unqualified success, delegates being present from all parts of Canada, and the discussions being interesting and beneficial to a marked degree.

Many important resolutions were debated, and such as were approved are receiving my earnest consideration and that of my officers.

On the whole the work of this branch has during the year been of an exceedingly satisfactory character, while the plans for future activity promise even more gratifying results.

EXPERIMENTAL FARMS BRANCH.

The experience of another year has added materially to the accumulation of useful facts which have been worked out by careful observation at the several experimental farms. The publication of these from year to year in the reports and bulletins issued, leads to their free use by the most intelligent and practical farmers in their daily

8-9 EDWARD VII., A. 1909

practice. The confidence of the farming community in the reliability of the results obtained at the experimental farms, leads to a constantly increasing demand for the publications issued which are carefully preserved and referred to from time to time as information is needed.

During the past year good progress has been made in all the separate branches bearing on farm work. In the cereal division many promising new sorts of wheat and barley produced on the farms have been further tested, some of which have been sent for trial to different parts of the Dominion, where their special properties are likely to make them most useful. Distinct gains are being made in the production of earlier ripening varieties of wheat combined with high quality and productiveness, which will no doubt make many of these products most valuable in the different climates of Canada. A new and important fact regarding the quality of wheat has been further demonstrated, that is that wheat kept over for a year, improves considerably in quality, which may have a direct bearing on the success of the proposed northern route for the transportation of grain.

In the Agricultural Division a most interesting series of tests have been made in the use of frozen wheat for the feeding of swine and the fattening of steers, which have shown that the lower grades of frozen grain may be very profitably used for this purpose. Many useful facts have also been accumulated in connection with the rotation of crops, and the growth of fodder plants and roots.

In the Horticultural Division many new seedling apples have been fruited during the past year, among which are some very promising late keeping sorts of good quality, which will probably become important varieties both for the home and export trade. Much interesting work has also been done with other fruits and vegetables.

In the Chemical Division much excellent work has been accomplished in determining the relative value of different sorts of cattle foods offered on the market, also in ascertaining the qualities of different sorts of wheat. Many varieties of barley have been analyzed especially with the view of determining the proportion of nitrogen in each. Investigations have also been conducted in many other lines bearing on farm crops.

In the Botanical and Entomological Divisions the life histories of many insects have been studied and remedies tested for those which injure crops. Further studies have also been made with weeds and the best measures for eradicating them. Many useful facts bearing on the subject of Bee Keeping have also received the attention of this division.

Experiments have been continued in the Poultry Division with trap nests, as a means of detecting good and poor layers, also with different sorts of foods and different methods of feeding. The usefulness and economy of frozen wheat in this connection has also been tested. Much other work has also been done in this branch helpful to those who are following this industry.

The numerous experiments with fertilizers begun by the director twenty years ago have been continued and much useful information in this connection has been worked out. The hardy cross-bred varieties of apples which have been produced for

SESSIONAL PAPER No. 15

the Canadian Northwest are proving reliable wherever they have been tried, and are fast establishing their reputation for general usefulness. These are now being freely supplied by the nurserymen, who are propagating them in considerable quantities.

AGRICULTURAL AND LIVE STOCK DIVISION.

In soil cultivation and crop growing very important lines of work continue to occupy attention. As among the more important might be mentioned:—

(1) Experiments to determine the cost of growing different crops under various conditions. The crops experimented with being chiefly corn for ensilage, mangels, turnips, rape, clover hay, timothy hay, and oats.

(2) Experiments to determine how most certainly to lower the cost of producing the unit of crop that is the ton of roots, ensilage, hay or grain, stored in each case. As a means to this end the introduction of larger machines is proving very effective. The increasing of the crop yield by growing the most productive varieties is being found to be of some value. The thorough cultivation of the soil and the following of proper rotations are, however, the apparently most effective means to this end.

(3) Experiments to determine the influence of depth of ploughing accompanied by deep cultivation or what might be called light subsoiling is being compared with deep ploughing. The work is not yet far enough advanced to permit of any conclusion being drawn.

(4) Experiments to determine the best rotations for different purposes. Rotations of varying duration are under test. The more practicable so far seem to be:—
(a) Three-year rotation as follows:—1st year, corn or roots; 2nd year, grain seeded down 10 lbs. clover, 5 lbs. timothy; 3rd year, clover hay. The crops are then repeated in the same order. (b) Four year rotation: 1st year, corn or roots; 2nd year, grain, seeded down, 10 lbs. clover, 10 lbs. timothy per acre; 3rd year, clover hay; 4th year, timothy hay or pasture. The crops are then repeated in the same order. If, however, it is desired to grow relatively more hay or leave a larger part of the farm under pasture this rotation might be expanded to a 5 or 6-year rotation by leaving down to hay or pasture for 3 or 4 years instead of for 2 years only. (c) Five year rotation: 1st year, corn or roots; 2nd year, grain, seeded down 10 lbs. clover, 10 lbs. timothy per acre; 3rd year, clover hay or pasture; 4th year, timothy hay or pasture, ploughed in August; 5th year, grain, 10 lbs. clover per acre for fertilizer. The crops are then repeated in the same order. It may be extended by leaving 3 or 4 years instead of 2, under hay or pasture.

(5) Experiments to determine the best methods of cultivating the soil are constantly being carried on. One finding of importance is that where it is desired to grow grain on sod, the following preparation has proven very much superior to any other. Plough the sod in August as early in the month as possible. Roll at once and cultivate at frequent intervals until the sod has rotted well. When the sod has broken down ridge up with a double mould board, plough into ridges two feet apart or thereabouts and 7 or 8 inches high, just as though preparing for roots. Leave in this shape till the next spring, when break down with disk harrow or other implement and seed.

8-9 EDWARD VII., A. 1909

Here as on most other farms in eastern Canada, live stock is considered of the very greatest importance. Its importance lies, it is considered, along several lines:—

(1) As a means of maintaining and even increasing the fertility of the soil, by producing manure.

(2) As a profitable home market for every product from the land.

(3) As profitable employment in winter when other farm work is impossible.

The classes kept are horses, cattle, sheep and swine. And in addition to the above mentioned reasons for the maintenance of considerable herds and flocks here they are used for experimental feeding and breeding purposes.

Feeding tests of various kinds are continually under way and considerable information *re* the values of different feeding materials is sent out from time to time. Pure bred animals are kept, for the most part, and the surplus stock of good quality is sold for breeding purposes.

Horses are not bred here, but are bought in from time to time as required. Experiments in feeding horses are frequently under way.

Dairy cattle are on account of the location of this farm the most important class. Four breeds are at present under test, Shorthorns, Ayrshires, Guernseys and Canadians. Butter is manufactured on the farm and sold locally.

Beef cattle are not bred save in so far as the milking strain of Shorthorns bred here may be said to produce beef animals. Steers are fed in considerable numbers, however. Experiments of various kinds with feeding steers are always under way.

Sheep are kept in small numbers only. The breeds represented are Shropshires and Leicesters.

Swine have been kept in very large numbers during the past year. Three breeds are handled, Yorkshires, Berkshires and Tamworths. Feeding experiments during the year were confined for the most part to testing the value of frozen wheat for pork production.

HORTICULTURAL DIVISION.

The Horticultural Division of the Central Experimental Farm may be divided into three departments, viz.: that relating to fruits and vegetables; that relating to forest trees; and that relating to the arboretum and botanic garden.

The main experiments which are being conducted with fruits and vegetables were continued in 1907. Some of these relate to the testing of varieties already on the market; the origination of new sorts from seedlings and by cross fertilization; the finding of seedlings of merit originated in different parts of Canada and testing them at the Experimental Farm. Experiments are also being carried on with different spray mixtures to determine which are the most effective and, if possible, to discover new ones. Experiments are also being conducted to determine if the individuality in trees is continued in grafted scions from them.

New strains of tomatoes, beans, and peas are being developed by selection with special reference to earliness. Efforts are also being made to obtain by selection strains of potatoes which are comparatively immune to blight and rot.

SESSIONAL PAPER No. 15

With especial reference to the season of 1907, it may be said that the apple crop at the Experimental Farm was the largest yet obtained. It was a good one, both in quantity and quality, and while complaints were made in some parts of Ontario and Quebec of the small size of the fruit and injury from spot, the results of the good cultivation and thorough spraying which the trees get from year to year at the farm were very apparent in the cleanness and fair size of the fruit. The plum crop was a medium one and the cherry crop rather light. One of the largest crops of grapes raised at the Central Experimental Farm was produced in 1907, but owing to the cool autumn the later varieties did not ripen so thoroughly as in some years, and a number of sorts did not ripen at all. As the results of the testing of a large number of kinds of grapes several are now known which ripen their fruit at Ottawa practically every year.

There was a medium crop of raspberries and currants of good quality. During 1907 a bulletin on bush fruits was written by the Horticulturist, in which the experiments for the past twenty years with raspberries, blackberries, currants, and gooseberries were reviewed, conclusions drawn from them, and recommendations made.

As already stated, one important line of work has been the origination of new varieties of cross-bred and seedling fruits. Many of these varieties fruited in 1907, and, as in 1906, a fair proportion of them were of such promise that they are being propagated with a view to more thoroughly testing their relative merits with the named varieties already on the market.

The Vegetable Growers having expressed a desire that some trial shipments of tomatoes be made to Great Britain to learn if Canadian tomatoes could be profitably sold there, four small shipments were made to Glasgow in cold storage in 1907. The tomatoes from all four shipments arrived in fair condition, but owing to the great quantities of tomatoes offered for sale of home grown and European production, the Canadian product, which was not so fresh nor so evenly coloured, could not be sold at remunerative prices. This condition of the market seems likely to occur every year.

In addition to other tests with potatoes, experiments were continued in 1907 to determine if it is possible to develop a strain which will be immune to blight and rot. Some varieties tested at the Experimental Farm are much more immune than others, and these were made the starting point for work in selection. The tubers from the most productive and most resistant hills are kept separate and planted from year to year. The results from this work are promising.

The branch of the Horticultural Division relating to forest trees is furnishing every year information which should prove valuable to the farmers of Canada. About twenty-one are devoted to timber trees grown as belts along two sides of the farm in solid blocks of individual species, and mixed together. Annual measurements are taken of the height and diameter of the trees. Notes are also taken of the effect which the stronger growing trees have on the others, and after twenty years' growth it is now possible to tell farmers, with a fair degree of accuracy, what kinds of trees will grow best together with the least injury and greatest good to both, and also the most satisfactory distance apart to plant the trees. In 1907 the trees on the whole con-

8-9 EDWARD VII., A. 1909

tinued to make good growth. The results of the work in the arboretum and botanic garden are of value to all Canadians who desire to improve their home surroundings, and to learn more about the individual characteristics of the many beautiful trees, shrubs, and herbaceous plants that will succeed in Canada. Students of botany will also find much to interest them. In this part of the farm there are now growing more than 3,000 species and varieties of trees and shrubs and more than 2,000 of herbaceous perennials. Records are kept of the hardiness, relative growth, flowering period and other interesting matters relating to the plants, and from time to time lists are published of the best plants for various purposes. The arboretum and botanic garden looked well in 1907, and attracted considerable attention from the visitors to the farm.

During the year a much-needed building was erected for the Horticultural Division in which is a good cellar for storing fruit with especial reference to the testing of the keeping qualities of the varieties being grown and the many seedlings which are now fruiting. There is also a cold storage chamber, exhibition room, work room, office room, and rooms for storing material used and produced in the Horticultural Division.

CHEMISTRY DIVISION.

Wheat.—A considerable amount of the time of the chemical staff has been devoted during the past year to investigation relating to this cereal. The various factors which are supposed to modify and control 'strength' or 'quality' in wheat and flour have been critically examined and correlated, as far as seemed practicable, with the results from the baking tests. The relation of the ash constituents to the nitrogenous compounds and the proportion of sugar present in flours, in so far as they may affect the shape and volume of the loaf, have also been studied. The results are set forth in Part II. of bulletin No. 57, on 'quality in wheat,' and Part II. of bulletin No. 60, on 'The Grades of Wheat of 1907,' now in press. In certain important particulars our knowledge respecting the chemistry of wheat has been materially advanced.

The development of soft or starchy kernels in the crop from hard wheat when sown on newly broken scrub land, in certain districts of the Northwest, has been studied. This deterioration, it would appear, results from prolonged vegetative growth of the wheat plant, in other words, a retardation of the maturation or ripening of the berry, and is caused by an excessive amount of moisture in a soil containing large percentages of vegetable matter and nitrogen. Presumably, it is only a matter of a comparatively short time before such soils will produce hard wheat, as with cultivation and fallowing they will necessarily lose a part of this organic matter and be less retentive of moisture.

As a result of the unfavourable weather conditions that prevailed last season in many districts of the Northwest, a considerable amount of 'frosted' wheat has been put on the market for feeding purposes. It has been found that this grain is characterized by a percentage of nitrogen somewhat higher than that in normally ripened wheat.

SESSIONAL PAPER No. 15

A small proportion of this nitrogen appears to exist in a non-albuminoid form—somewhat less valuable from the feeding standpoint than the true albuminoids or gluten. However, allowing for this, frozen wheat, provided it is digested by the animal, should possess a feeding value quite equal, if not superior, to ordinary well-ripened wheat. The excessive hardness of the frosted wheat necessitates that the grain should be finely ground (and possibly for certain classes of stock, soaked) so that it may be the more easily attacked by the digestive fluids and assimilated. Its judicious mixture also with a more bulky meal, as bran or ground oats, would undoubtedly further its digestion.

The influence of age on wheat and flour as it may affect their breadmaking value, has been investigated, but as yet the results from the chemical work do not allow any very definite conclusions being drawn as to the nature of the changes which apparently take place towards an improvement in quality.

Barley.—A considerable number of Canadian grown and imported barleys both two-rowed and six-rowed, have been submitted to analysis. The results, in the majority of instances, show that the nitrogen content is increased by the growing of European barley, at Ottawa.

Fodders and Feeding Stuffs.—The forthcoming report of the chemist will contain the analyses, with notes as to relative nutritive values, of many of the milling and manufacturing by-products on the Canadian market. This information allows our farmers to intelligently make their purchase of feeding stuffs and is consequently of considerable value.

Alkali Soils.—The occurrence of 'alkali' in certain districts of the Northwest provinces and British Columbia has made it necessary to study the nature of these injurious salts and methods of reclamation for lands so affected. The information gained from this research is now available, having been collected and published in bulletin form (Bulletin No. 4, Second Series.)

Insecticides and Fungicides.—The composition of several new materials of this character has been ascertained and their probable value outlined, and the information furnished our fruit growers.

Certain new and very promising sprays have also been devised, using flour instead of soap as an emulsifier. They are easily prepared, stable and apparently effective. Details of preparation with formulæ are given in the chemist's report.

Water from Farm Homesteads.—The work of examining well waters as to wholesomeness has been continued. During the past year over 100 samples have been analyzed. The waters have been forwarded from all parts of the Dominion and this branch of the chemical work is one that is much appreciated by the agricultural public.

As far as time permits the chemist's services in the examination of samples sent in by farmers and in the answering of questions relating to the chemistry of farming, have, as in the past, been freely given.

8-9 EDWARD VII., A. 1909

ENTOMOLOGICAL AND BOTANICAL DIVISION.

The work of the Entomologist and Botanist and his staff has been of the same nature as in past years. The large correspondence from farmers in all parts of the Dominion shows that they are appreciating the useful information which is being constantly disseminated concerning the habits of injurious insects and the best ways of preventing their attacks. While there has been no serious outbreak of any new kind of injurious insect during 1907, many of the older enemies have occurred in different districts and done appreciable harm.

Cereals.—Owing to the cold dry spring and the cool weather which prevailed throughout the year, crops of all kinds were backward and late throughout the country. In Manitoba the Wheatstem Sawfly was more than usually abundant, and the Grain Aphis was troublesome in a few localities in the eastern portions of Saskatchewan. Oats in Prince Edward Island were considerably injured by the same insect, and wheat in the same province was much reduced by the Wheat Jointworm.

The Pea Weevil, which has done remarkably little harm for a year or two, was again destructive in Bruce County, Ontario.

Grasshoppers were very abundant and wrought considerable destruction in restricted localities, as in some localities along the Ottawa River in Ontario and in the counties of Quebec province lying north of the same river. Complaints of these insects were also received from Manitoba and British Columbia.

Cutworms were the cause of more or less loss, as usual, in all parts of the Dominion. Most of these complaints were with regard to their injuries to garden plants; but there was a remarkable outbreak of the Variegated Cutworm in southwestern Ontario towards the end of July. The injury was most marked in the neighbourhood of Leamington, where hordes of this large and late-occurring species swept everything before them. The poisoned bran remedy was at once recommended and was used with great success.

Roots and Vegetables.—The Small White Cabbage Butterfly did much harm to cabbages of all kinds in Manitoba and in the older provinces. Dusting the plants with pyrethrum insect powder, one pound in four pounds of cheap flour, with freshly slaked lime, or with Paris green and flour, one pound in 25 pounds, were all quite effective when applied promptly.

The Black Blister Beetle was troublesome for a short time on potatoes in the prairie provinces.

Fruit Crops.—The Codling Moth was unusually destructive to apples in western Ontario. Regular spraying with poisoned Bordeaux mixture for the first brood, and then banding the trees with strips of burlap after the middle of July, are effective means for controlling this persistent enemy of the fruit grower. The burlap bands must be examined at least once a week and the cocoons destroyed, of all caterpillars which have resorted to them to spin up. The Codling Moth has appeared in two or three more localities in the province of British Columbia and is probably widespread than is as yet known.

SESSIONAL PAPER No. 15

Fruit insects of lesser importance which in 1907 appeared in unusual numbers, were: in the eastern provinces, the Rusty Tussock Moth, the Hickory Tussock Moth and the Spotted Tussock Moth, the Red-humped Apple-tree Caterpillar, and the Yellow-necked Apple-tree Caterpillar. These were all easily destroyed by spraying promptly with arsenical washes.

The Oyster-shell Scale was reported from many localities. The standard remedy for this insidious enemy are the invigorating of the trees by special cultivation or spraying them late in autumn with a weak lime whitewash, or in summer with kerosene emulsion or whale-oil soap solution.

The Brown-tail Moth, which was reported to have established itself in Nova Scotia and New Brunswick, has been carefully watched by the provincial government of Nova Scotia under the direction of Prof. Cumming, of Truro; and large numbers of the winter nests were destroyed during the winter. During the summer of 1907 comparatively little injury was done in the orchards of Nova Scotia; and it is to be hoped that this enemy of the New England States may be satisfactorily controlled, owing to the vigorous way in which it has been dealt with.

Grass and Fodder plants.—The collection of grasses and other fodder plants has been increased and has attracted much attention from visitors to the Central Experimental Farm.

Museum.—The collections of the plants and insects in the Division of Entomology and Botany have been very much increased, and now form a valuable source of reference to farmers and students, who make frequent reference to them.

The Entomologist and Botanist has been able during the past season to visit many places in different parts of the Dominion and deliver addresses upon insects beneficial and injurious, upon weeds and other plants, and also upon various nature study objects. He also prepared for the Seed Commissioner's Branch an extensive publication upon the worst farm weeds of different parts of the Dominion. The illustrations for this beautiful work were prepared by Mr. Norman Criddle, of Aweme, Manitoba, an expert naturalist and artist. The book has been received with very general satisfaction by those for whom it was prepared, and an enlarged edition with a few more plates is in contemplation.

CEREAL DIVISION.

The past season was very favourable for cereals at Ottawa and good progress was therefore made in the work of selecting and propagating new strains and varieties which are not yet ready for test at the branch experimental farms. The propagation on a large scale of such sorts as are particularly promising is carried on chiefly at Indian Head and Brandon. The season at Brandon was fairly favourable, but the grain at Indian Head did not in all cases reach full maturity before the autumn frosts. Fortunately, however, most of the important new sorts gave a crop which can be used for seed purposes and thus the propagation of these varieties for distribution will not be seriously delayed.

8-9 EDWARD VII., A. 1909

IMPROVED STRAINS OF WELL-KNOWN VARIETIES.

The improvement of the more important varieties of grain by careful selection is being pushed rapidly. Some of the new selections are now available in considerable quantity though of others only a very small amount is on hand. Selected strains of Preston and Stanley wheat are being distributed this year for the first time; and more carefully selected types of the same varieties are being propagated for distribution, along with improved early strains of Red Fife wheat.

NEW VARIETIES.

Though it is obviously undesirable to introduce into general cultivation a large number of new varieties of grain, which would cause much confusion, it is clearly essential that very many new sorts must be tested at the experimental farms in order that the best possible kinds may be discovered for the various grain growing districts of this country.

Among the new sorts introduced from abroad last season may be mentioned some extremely early varieties of barley from high altitudes in northern India and Tibet. Selected strains of some of these are being propagated, and may prove useful in our most northern agricultural lands. Some wheat from Tibet is also under test, but seems less promising than the barley.

The extensive work in the cross-breeding and selection of grain which has been carried on for the past few years by the cerealist, has now begun to give quite a large number of fixed varieties. About 130 new cross-bred sorts of wheat, oats, barley and peas are now ready for propagation this spring. Of these about 70 are early-ripening kinds of hard red wheat which have been specially selected with a view to the production of strong flour of good colour. These new varieties of grain (which represent only a part of the results of the work of cross-breeding done in the year 1903) will of course be considerably reduced in number while being propagated, all those being rejected which show noticeable defects when grown under ordinary field conditions.

Two new cross-bred sorts of early ripening wheat (Chelsea and Marquis) which are of great interest on account of their earliness and good quality, were tested at some of the branch farms last season, and are being propagated with a view to a limited general distribution next year.

QUALITY IN WHEAT.

During the past year Bulletin No. 57, of the Experimental Farm Series, on 'Quality in Wheat,' prepared by the cerealist and the chemist of the experimental farms, was published. In this bulletin a full account was given of the methods devised and used in investigating the important problem of the baking strength of flour; and the figures obtained for the strength of the flour from many different varieties of spring and winter wheat grown at Ottawa and elsewhere were also published. This bulletin, although containing a large amount of valuable information, left many unsolved problems in connection with flour strength. Research work of the same general character is therefore being continued, especially with a view to ascertaining

SESSIONAL PAPER No. 15

more definitely the effects of storage under different conditions on wheat and flour; as well as the effect of soil and climate on the strength of the flour from different varieties of wheat.

The milling and baking tests of this winter have confirmed the conclusions previously reached as to the radical improvement in the strength of many wheats and flours produced by storing them for a year, and have also shown clearly that the extent of this improvement varies greatly in different instances.

Many of the leading varieties of winter wheat and of durum ('Macaroni') wheat have also been studied this year. Striking differences in character were found within both of these classes, showing clearly that the question of variety is of great importance. Some of the winter wheats and some of the durum wheats proved excellent for bread making though in both groups the average of baking strength was rather low.

GRADES OF WHEAT IN THE MANITOBA INSPECTION DIVISION.

On account of the unusually cool character of the past summer in the prairie provinces, a considerable quantity of low grade, immature wheat has found its way into commerce. It seemed desirable, therefore, to determine the values of these lower grades for milling, baking and feeding purposes, and also to ascertain whether the coolness of the season had in any way adversely affected the higher grades. The officers of the cereal and chemical divisions have, therefore carefully studied the various grades of wheat and have obtained interesting results which are now ready for publication in Bulletin No. 60 of the Experimental Farm series.

CIRCULAR ON PRESTON AND OTHER WHEATS.

In view of the prominence into which Preston and certain other early-ripening wheats have come, a circular dealing with these varieties was lately prepared by the cerealist, and was distributed to farmers in the northwest provinces. In this circular full and precise information was given in regard to the characteristics and qualities of Preston and other early wheats, information which is based on field tests for many years and on extensive milling and baking tests in the laboratories at the Central Farm. With the facts thus fully presented to them, farmers will be enabled to reach wise decisions as to the advisability of growing any of these early varieties of wheat.

POULTRY DIVISION.

The experimental work of the past year, in connection with the Poultry Division, embraced many features of interest to poultry keepers. Among the most important are the following, which are briefly summarized:—

Continued trials of different styles of open front, unheated poultry houses. These patterns of houses are in marked contrast to the more elaborately and oft-times ill-ventilated structures of former years. The most advanced type of this description of poultry building has its southern front entirely of cotton in lieu of boards with a window in centre. It is claimed for this pattern of house that it is cheaper, easier of construction and is calculated to keep its inmates in better condition than any other.

8-9 EDWARD VII., A. 1909

A house of such pattern was on trial during the winter of 1907-08, in the poultry division and gave satisfactory results. Details as to construction of this house and results therefrom will be found in the annual report of the poultry manager.

The work of building up prolific egg-laying strains of fowls by means of selection by trap-nests was continued and interesting results secured. This system while sure, is unavoidably slow where fowls of different varieties are being experimented with.

The application of electricity to one or more incubators and brooders for the purpose of hatching and rearing chickens, promises to be most interesting and, if successful, to have most important and desirable results.

A trial of frozen wheat which was given to a certain number of fowls was commenced during the latter part of the winter. Results from this experiment will be learned with interest.

It is gratifying to note greater interest by farmers throughout the country in the poultry branch of their farm work. This is instanced by the increased inquiry by them as to the latest and best methods of poultry keeping.

BRANCH FARMS.

Experimental Farm for the Maritime Provinces.

At Nappan cold and wet weather in spring delayed seeding and the earliest sowing of grain there, was on May 20, and seeding was not completed until the beginning of June. In consequence of frequent wet weather later in the season the hay crop was saved with difficulty. Nevertheless fine growing weather later brought very fair crops of grain, field roots and potatoes, many of them being above the average. The experimental work at this farm included tests of all the more important farm crops.

The apple crop was not as heavy as usual, but a quantity of very fine fruit was produced.

The feeding of steers and swine has been continued, also some experiments with sheeep, poultry and bees.

Experimental Farm for Manitoba.

At the Brandon experimental farm the spring also opened late, and the first spring wheat was not sown until May 9, which was more than two weeks later than usual. Notwithstanding this lateness in sowing, most of the varieties of grain ripened early enough to escape injury from frost. At this farm experiments have been conducted during the past year with many varieities of cereals, clovers, grasses and other forage and root crops.

An interesting comparative test was made during the past winter in the feeding of steers. Two groups were fed, one of which was fed and kept in the barn all winter, the other group was fed and kept outside all the winter. It is noteworthy that beef was produced on the animals kept outside at a somewhat less cost than those fed in the barn. Experiments have also been carried on with swine, poultry and bees. Tests have also been conducted with many sorts of fruits and vegetables, also with forest and ornamental trees and shrubs and flowers.

SESSIONAL PAPER No. 15

Experimental Farm for Saskatchewan.

At Indian Head, Sask, the first wheat sown in 1907 was on May 6, the sowing of oats began on May 14 and that of barley a day or two later. On this farm the average date for the sowing of wheat for the past five years has been April 17. There was thus a loss in 1907 of about three weeks in the early part of the growing period. This backward weather was characteristic of the greater part of the season and ripening was much delayed so that the frost which occurred on September 12 found the grain immature and injured it considerably. While the wheat crop was thus reduced in quantity and value the oat crop was an extraordinary one running from 100 to 110 bushels per acre.

Experiments have also been conducted here with all the more important farm crops. The trials made with many of these have been successful, and the large yields obtained from the sowing of certain varieties have encouraged many farmers to follow in the lead of the experimental farms.

Many tests have been made with fruit and vegetables and many sorts of cross-bred apples have been successfully grown. A distribution is made each year from this farm as well as from that at Brandon of samples of some of the best varieties of wheat, oats, barley and potatoes. Mail packages of young trees and shrubs are also sent out in response to requests, these are very much appreciated by the farmers who receive them. Experiments have also been conducted in the fattening of steers and swine.

Experimental Farm for British Columbia.

At the Experimental Farm at Agassiz, B.C., the weather during the spring months was also wet and cold, and for this reason the hay crop was below the average, and a similar shortage prevailed throughout the coast climate. Hot weather during June, July and the early part of August, hastened the ripening of the grain crops, and the results were quite up to the average.

The thirty-one varieties of oats under trial gave an average crop of 66 bushels 16 lbs. per acre. Fifteen varieties of six-rowed barley gave an average of 44 bushels 47 lbs. per acre; while the thirteen sorts of two-rowed barley tested gave an average of 47 bushels 13 lbs. per acre. The twenty-eight sorts of potatoes under trial gave an average crop of 474 bushels 25 lbs. per acre.

Strawberries were a medium crop. Other small fruits also did well and cherries were a good crop, but wet weather caused a large percentage of them to crack open and all fruit so injured is useless for market. Apples were a medium crop. The yield of pears was light while plums produced heavy crops fully up to or above the average. Most of the fruit crops in the interior districts were very satisfactory.

Experimental Farm for Southern Alberta.

The establishment of an experimental farm at Lethbridge in southern Alberta fills a long felt want. This farm which consists of 400 acres of land is located within that area in southern Alberta which has a scanty rainfall. One hundred acres of this land is situated so as to admit of irrigation, the remainder will be conducted in accord-

8-9 EDWARD VII., A. 1909

ance with the methods practised in what is known as dry farming, where the conservation of moisture is studied and provided for in every practicable way. Under such a system good crops can usually be grown with a very limited rainfall.

The past season has been devoted mainly to preparatory work, the breaking up of the land and the erection of buildings. The area broken during the season was 155 acres, of which 57 acres are in winter wheat. Experiments are being conducted to gain information as to the best time for sowing winter wheat and the quantity of seed to use per acre to obtain the best results. Thirty acres of land on the dry portion and 41 acres on the irrigable land have been got ready for spring crops. The planting of orchards, also belts and avenues of forest trees has claimed much attention and it is expected that another season will make quite a change in the appearance of this hitherto bare prairie land.

A dwelling for the superintendent, a cottage for the workmen and a suitable barn and implement shed have been erected. The land has also been enclosed by a substantial fence.

Experimental Farm for Northern Alberta.

Good progress has been made with the new experimental farm for northern Alberta which has been located at Lacombe. Notwithstanding the very unfortunate season of the past year which resulted in everything being sown late, some of the crops did fairly well. The fourteen varieties of spring wheat were all more or less injured by frost yet they gave an average yield of 21 bushels 51 lbs. per acre. Oats gave a good crop, the 31 varieties under trial averaging 86 bushels 31 lbs. per acre. The 15 varieties of six-rowed barley tested gave an average crop of 57 bushels 26 lbs. per acre, and the 13 varieties of two-rowed 39 bushels 39 lbs. per acre. Field roots and potatoes have also given very satisfactory crops.

Large supplies of forest and ornamental trees have been sent to this farm where they have been planted in windbreaks and groups. Orchards of apples have also been planted and plantations made of small fruits. Trials have been made also of many sorts of vegetables for the purpose of gaining information as to those sorts best adapted to the climate of northern Alberta.

This farm has also been substantially fenced and the following buildings erected: a house for the superintendent, a cottage for workmen, a barn and stable and an implement shed.

Experiments at Fort Vermilion on the Peace River.

Some experiments were begun this year at Fort Vermilion, where arrangements were made with a farmer to conduct experiments on his own land with most of the more important farm crops, also with fruits, vegetables, forest and ornamental trees. Owing to the difficulties attendant on a late season, the necessary supplies were delayed in transit and most of the grain late sown was injured by frost before it reached maturity. That part of the Peace River district usually produces very good wheat, and samples sent to the Central Farm of the growth of 1906 were plump and well ripened. Further experiments are being tried in that locality this year and should the season be a normal one there will no doubt be many successful trials on record.

SESSIONAL PAPER No. 15

MEETINGS ATTENDED.

The officers of all the branch farms as well as those of the Central Farm have attended many of the more important agricultural meetings held in different parts of the Dominion where opportunities have been afforded of bringing prominently before the farmers present some of the more important features connected with the work of the experimental farms.

GENERAL CROPS.

The larger part of the crops in most of the provinces of Canada in 1907 were below the average

ONTARIO.

In Ontario the cold and backward spring was followed in most instances by unusually dry and hot weather which resulted in a very light crop of hay. The average for the province was 1.18 tons per acre, whereas the average for this crop for the past 25 years has been 1.47 tons per acre. The area occupied by hay in 1907 was increased 219,635 acres, nevertheless there was a decrease in the total crop of 792,762 tons. Oats which in this province stand next to hay in importance also occupied an increased area 215,798 acres, but the crop reported was nearly 25 million bushels less than last year. The winter wheat and spring wheat crops were both somewhat above the average, but there was in each case a reduction in the area sown which had a marked effect on the total output. Most of the other important farm crops were below the average. The high prices which prevailed for all kinds of farm produce helped in many cases to make up for the shortage in weight of crops.

The scantiness of the pastures caused a falling in the production of cheese and butter, which brought a serious reduction in the volume of exports. The apple crop was on the whole a good one.

QUEBEC.

In most parts of Quebec the agricultural conditions were much the same as in Ontario a late cool spring followed by unusually dry weather resulted in a scanty hay crop and poor pastures, and both dairying and grazing suffered. The crops of grain in many districts were nearly up to the average, while in others they were distinctly below the average.

THE MARITIME PROVINCES.

The spring in these provinces was still more cold and backward, and wet weather delayed seeding very much. Higher temperatures in the later months brought the grain rapidly forward and fairly average crops were in most cases secured. In some localities the returns were above the average. The hay in many places was injured by unfavourable weather during harvest.

The apple crop was an average one and the quality of the fruit was good.

8-9 EDWARD VII., A. 1909

THE NORTHWEST PROVINCES.

The crops in the northwest provinces were disappointing. The cold and backward weather which prevailed during the greater part of the season made seeding late, and the maturing of the grain was also much delayed. In many districts frost occurred before the grain was ripe and much of it was injured. It is estimated that more than one-half of the wheat grown is fit for milling, the remainder is being used for the fattening of swine and cattle. A largely increased area of land has been brought under the plough and will be ready for crop in 1908.

BRITISH COLUMBIA.

In this province also the spring was late and on some parts of the coast the climate unusually wet and cold. Warmer weather followed which hastened the ripening of the grain, and crops were fully up to the average. The hay was a heavy crop and was well saved.

The growing of fruit in this province is extending rapidly, especially in the drier interior districts. Extensive orchards are being planted in many directions, and the quantities of fruit available for export will soon be very large. The bearing orchards in many parts of this province gave in 1907 satisfactory returns.

HEALTH OF ANIMALS BRANCH.

The work of development and organization in this branch has continued during the past year.

A quarantine station has been established at White Horse, Y.T., while the following places on the international boundary have been declared to be inspection stations: Noyan Junction, Quebec; Morrisburg and Kingston, Ontario; and Chopaka and Huntingdon, British Columbia.

New quarantine buildings have been completed at Lennoxville, Que., at Gretna and Bannerman, Man., and Kingsgate, B.C., while at Emerson, Man., North Portal, Wood Mountain and Willow Creek, Sask., Pendant d'Oreille, Coutts and Twin Lakes, Alta., and Osoyoos, B.C., existing facilities have been considerably improved. At the present time a new quarantine station is being erected at Sarnia Tunnel, the old premises at Pt. Edward being, since the building of the tunnel, inconveniently situated and altogether too large for the requirements of the service. The new buildings in course of erection are being constructed with material from those on the old grounds, which, having been built many years ago, are scarcely fit for use and could not be placed in proper repair without considerable expenditure, which, under the circumstances, it was not deemed advisable to undertake.

The introduction in March, 1907, of new regulations providing that all horses imported from the United States must be tested with mallein, has largely increased the work of inspectors at boundary points. It is, however, gratifying to be able to report that this important change has caused less irritation than was anticipated and that its results are undoubtedly of great value in preventing the introduction of diseased animals.

SESSIONAL PAPER No. 15

No serious changes have been made in the quarantine regulations since the date of my last report, except that the permit system has been extended to cover importations of animals from all parts of the world with the exception of horses brought from any of the countries of Europe. A slight change has also been made in the regulations governing the admission of animals on inspection for exhibition or other temporary stay, it having been found advisable to prohibit entirely the introduction of swine for any purpose whatever without undergoing the prescribed period of quarantine.

The work done by our officers at quarantine and inspection stations shows a marked improvement, with the result that the departmental check on importations of live stock is much more effective than formerly, and our statistics, in a corresponding degree, more reliable.

This is the more gratifying because of the continued large influx to western Canada of American settlers, most of whom bring live stock with them, the consequent pressure, especially at certain ports, entailing a vast amount of work on the inspectors stationed there.

Hog cholera is still being kept under control in a satisfactory manner, and although the year just past shows a slight increase in the amount of compensation paid, this is due almost entirely to new outbreaks apparently caused by animals surreptitiously introduced from the United States. A few very limited outbreaks have occurred in the old affected area, due evidently to chronic cases infected during previous outbreaks, and in which the disease had in the meanwhile assumed a latent form. The disease has not made its appearance except in Ontario and British Columbia, although a number of suspected cases have been reported and investigated by our officers.

The experimental work carried on at Antigonish, N.S., with the view of ascertaining firstly, the cause of the affection locally known as Picton cattle disease, which was found to be due to the ingestion of rag-wort or *Senecio Jacobea*, and secondly, whether sheep can eat that plant with impunity, have been brought to a close. It has now been shown beyond question that no bad effects follow the eating of this plant by sheep and steps are therefore being taken to freely disseminate this information throughout those localities in which the disease is found, and in which the rag-wort grows in profusion. A strong public sentiment against the weed is being created, and as sheep are probably the most satisfactory agents for its eradication, especially in rough lands where cultivation is difficult or impossible, I am giving special attention to the development of the sheep industry in these districts.

The unusually severe winter of 1906-07 which led to the drifting for great distances of range cattle, many of which were affected by mange, caused a very serious spread of that disease and consequent heavy financial loss. A strong effort was, however, made during the summer to regain the advantage lost and at the close of the season the number of infected cattle had been greatly reduced. Unfortunately, however, the results of treatment were not as satisfactory as they might have been, owing to the fact that the use of oil emulsion was permitted. Although this form of treatment has been highly spoken of and recommended in different countries, it was found by my officers to be far less efficacious than the lime and sulphur dip, the use of which

8-9 EDWARD VII., A. 1909

only, was authorized in former years. As the result of this experience, the oil emulsion is no longer recognized as an official dip. All herds found to be affected after the weather became too cold for treatment have been held in quarantine and will be dealt with in a satisfactory manner before they are released.

In the light of our past experience it will be necessary to keep all the cattle in the infected area under much closer supervision than has hitherto been attempted, with the view of enforcing thorough treatment on the first appearance of the disease in a new locality.

During the summer and fall sheep scab was occasionally reported from a few districts in western Ontario. A systematic and thorough investigation was made in each case with results, so far, apparently very satisfactory, although owing to the insidious nature of the disease, it is impossible to state positively that it has been eradicated. The sheep trade, however, is being closely watched and the attention of breeders and dealers having been drawn to the importance of promptly reporting any suspected outbreaks, it is scarcely likely that it will now be permitted to spread to any serious extent before being detected and dealt with. In this connection I am glad to be able to report that it was last fall found possible to permit the movement of sheep without inspection from all parts of the Dominion, with the exception of a comparatively small area in western Ontario, which is, however, rather important owing to the large number of sheep bred and reared there.

Gratifying results are being obtained from the policy of slaughter and compensation adopted some years ago in dealing with outbreaks of glanders. The expenditure under this head, which was exceedingly heavy during the first year of the new policy, has shown an annual decrease, and as under the present quarantine regulations the introduction of fresh infection from the United States is likely to be largely, if not altogether prevented, I hope to be able in the course of a few years to report that the disease has been practically stamped out. The task is, however, far from an easy one, especially in the western provinces, where for many years glanders was allowed to spread practically unchecked. A marked advantage under the new policy is the general willingness of owners to report suspected cases due to certainty of obtaining reasonable compensation in the event of their animals being destroyed.

I am pleased to be able to say that during the year just past the British Board of Agriculture has adopted a policy involving the slaughter of reacting horses similar to that which this country was the first to adopt in 1904. There is every reason to believe that a number of other countries will shortly be forced to adopt similar measures.

Bovine tuberculosis continues to exist to a greater or less extent in a number of different localities throughout the Dominion, and several times during the past year I have been asked to adopt a more aggressive policy in dealing with this disease than that now followed by the officers of my department.

The question of the control of bovine tuberculosis is, however, one of great difficulty, and until some method of dealing with it, more intelligent and satisfactory than any of those hitherto tried, is evolved either by those now engaged in experimenting with the disease or possibly by their successors, I do not think it advisable to adopt the extreme measures so strongly advocated in some quarters. The position of those

SESSIONAL PAPER No. 15

members of the medical profession who without perhaps realizing the extent of their demands, ask for the universal testing of all cattle and the slaughter of such as react, would be greatly strengthened, if they themselves were to insist on the notification of ordinary cases of human tuberculosis. As long as the latter are allowed to mix freely with their fellow men and women, to occupy the same rooms, travel in public conveyances and act generally as infective agents, it is scarcely reasonable to attach so much importance to the comparatively insignificant part played by the domestic cow in the transmission of this fatal disease. Until some method involving a less serious economic loss than that inseparable from a policy of compulsory testing and slaughter, is discovered I do not think that much more can be done than we are at present doing.

Preventive inoculation for tuberculosis does not appear to be making many converts among practical veterinarians, but experimental work in this direction is still in progress, and it is possible that along this particular line, an effective method of dealing with the disease may yet be discovered.

The herd of tuberculous cattle which has been kept in the open air since December, 1905, still continues to flourish and has been the means of furnishing us with much valuable information which will be placed in the hands of the public at the earliest possible moment after the conclusion of the experiments.

Maladie due coit, or dourine, which for some years back has existed in southern Alberta, to which district it was introduced by animals imported from the United States, has been during the past year kept under control to a fairly satisfactory degree, although it has not yet been entirely eradicated. Experimental work on this disease has been continued by my pathologists at Lethbridge and Ottawa. The efforts of these gentlemen since the discovery in February, 1907, of the specific trypanosoma causing the disease have been and are now being directed towards the discovery if possible of methods of exact diagnosis and prophylactic treatment. Horse owners are becoming alive to the importance of promptly reporting all suspected cases, and I hope shortly to be in a position to state that the disease has been entirely stamped out.

A number of outbreaks of anthrax have as usual taken place during the year, although I am pleased to say that this disease has not been as prevalent as during many previous seasons. Stock owners are now generally adopting a policy of preventive inoculation, which appears to furnish a satisfactory means of dealing with the disease on premises which have unfortunately become infected. Evidence has from time to time been afforded that many of these apparently mysterious outbreaks of anthrax are really due to infection from imported wools and hides. My officers are now engaged in securing definite information on this point which may render advisable the adoption of preventive measures.

The biological laboratory continues to do work of great value to the stock owners of the Dominion. Large numbers of pathological specimens continue to be sent in for examination and diagnosis. The output of the preventive vaccines for anthrax, and especially for black quarter, continues to increase enormously, while the manufacture of the mallein and tuberculin used by my officers forms no small part of the work of the pathological staff at headquarters. A small branch laboratory has been estab-

8-9 EDWARD VII., A. 1909

lished in British Columbia, where the services of an able and experienced veterinary pathologist are being utilized in making an investigation as to the nature and causes of a disease known in that province as Red Water in cattle.

The passage of the Meat and Canned Foods Act during the session of last year rendered it necessary to provide the services of a considerable number of veterinarians specially trained in the work of meat inspection. Arrangements having been made through the Veterinary Director General a short course in meat inspection was arranged for in Chicago during March and April, 1907. As a result of this step, there were rendered available the services of a sufficient number of men to enable me to bring the Act into force on September 3, since which time all establishments packing or dealing in meat for export or interprovincial trade have been under close and systematic inspection. The results have been to all appearances eminently satisfactory, and although the number of animals condemned is, compared with some other countries, gratifyingly small, it is still large enough to show that the placing of this trade under government supervision was both necessary and advisable. I would add that the packers have with few exceptions, loyally accepted the situation and are according to the department a hearty and cordial support in its endeavours to place the meat trade in Canada on a plane entirely above the possibility of suspicion.

ARCHIVES BRANCH.

During the last fiscal year three members of the staff have been employed in making a survey of historical material in Ontario, Quebec and the maritime provinces.

In the province of Ontario, Mr. Robert Laidlaw has examined and reported on the following collections:—

Toronto Public Library.—About 400 volumes, including papers of D. W. Smith, W. Dummer Powell, Jarvis, Baldwin, Strachan, Scadding, Lord Selkirk, Bidwell and others.

Crown Land Department.—The land registers and records of original grants.

Department of Agriculture.—Record books from 1783-1808.

Canadian Military Institute.—Military records, bearing on the war of 1812-15.

Knox College.—Church records and letters from pioneer missionaries in Canada.

Victoria College.—Journals of Methodist conferences, and correspondence dating back to 1775.

Ontario Historical Society.—Original document and copies of old church registers.

In private hands.—Correspondence of Sir John A. Macdonald from 1847. Papers of the late William Kirby.

HAMILTON.

Miscellaneous documents of local character; muster rolls, 1812; diaries, &c., in private hands.

SESSIONAL PAPER No. 15

ST. CATHARINES.

In the possession of Miss Merritt.—Papers of the late William Hamilton Merritt and of his father. The war of 1812-15 and the building of the Welland canal figure largely in these, and the Francis Goring papers commencing in 1776.

The property of Mrs. J. G. Currie.—Letters (principally copies) bearing on the life of Laura Secord.

PORT DALHOUSIE.

In the possession of W. B. Clark.—Memoirs of Col. John Clark, written by himself, and dealing chiefly with the war of 1812-15 and the rebellion of 1837-38.

NIAGARA-ON-THE-LAKE.

Niagara Historical Society (Miss Janet Carnochan, secretary and curator).—A large collection of documents and relics of historical interest.

SIMCOE.

Norfolk Historical Society (Henry Johnson, curator).—Walsh family papers and other manuscripts, dating back to 1793.

Tisdale and Read.—Old minute books, 1800-1809.

ST. THOMAS.

James H. Coyne.—Talbot papers, 1801-1851. These belong to His Honour Judge Macbeth, of London, but are in Mr. Coyne's custody.

His Honour Judge Ermatinger.—Diaries kept by Edward Ermatinger while in the service of the Hudson's Bay Company, 1818-29; also letters, &c.

His Honour Judge Hughes.—Printed papers and documents.

LONDON.

Sheriff Cameron.—Military Records and old letter books.

Fred. W. Farncombe.—Field notes of surveys by Colonel L. Burwell, 1819-21.

London Historical Society (Dr. L. Woolverton, curator).—Papers by pioneers on the history of the city of London and the county of Middlesex.

Dr. Linus Woolverton.—Diary and letter book of Joseph Willcocks, 1800-1803.

Chas. J. N. Shanly.—Original manuscript of diary kept by Major E. B. Littlehales, aide-de-camp to Lieut. Governor Simcoe, of a trip from Niagara to Detroit, 1793.

DETROIT.

Chas. M. Burton.—A collection of over 700 volumes of original manuscripts, bearing chiefly on the early history of the country on both sides of the Detroit river between Lake St. Clair and Lake Erie. Many of the documents deal with matters of much interest to Canadians.

8-9 EDWARD VII., A. 1909

WOODSTOCK.

Mrs. J. M. Ingersoll.—Original manuscripts, including military commissions, land grants and list of settlers in Oxford in 1787 on lands granted to the Ingersoll family in 1783.

F. R. Ball, K.C.—Manuscripts, including military commissions and documents signed by Colonel Butler, of the Butler Rangers.

BRANTFORD.

Mohawk Institute (Rev. Robert Ashton, principal).—Registers of Indian baptisms, marriages, &c., beginning with 1827.

Miss Augusta I. G. Gilkison.—Captain William Gilkison papers, consisting of diaries, correspondence, &c., dating back to 1800.

WINDSOR.

John Davis.—Business papers, correspondence, &c., of Angus McIntosh, Hudson's Bay Company factor at Moy (now Windsor) beginning about 1768; also military records.

Windsor Armouries.—Military papers, 1812

WALKERVILLE.

Alex. H. Askin (Strabane).—Seven or eight thousand original manuscripts and printed documents covering a period from 1780 to 1830. These deal chiefly with commercial and military matters, although all phases of life are touched upon.

SANDWICH.

Church of L'Assomption.—Complete parish records of births, marriages and deaths. from 1760; also business records of the parish from 1756, and other documents of interest.

Albert Prince.—Papers of the late Colonel Prince.

Fred. Neal.—Collection of historical data concerning the pioneer families of Sandwich and that part of the county of Essex which adjoins.

AMHERSTBURG.

Capt. Wm. Caldwell.—Original manuscripts, including letters written by Captain Billy Caldwell, Chief of the Pottawatomies, General Procter and others.

STRATFORD.

J. Davis Barnett.—In this gentleman's library of over 26,000 volumes are many rare Canadiana.

SESSIONAL PAPER No. 15

ELORA.

John R. Connon.—Original manuscripts and copies of documents bearing on the early history of the village and the adjoining townships of Woolwich, Pilkington and Nichol.

Henry Wissler (Salem).—Papers connected with the settlement of part of the county of Waterloo by the German Land Company.

COLLINGWOOD.

The Huron Institute (D. Williams, secretary and curator).—Collection of documents of historical interest, chiefly of a local character.

PEFFERLAW.

W. H. Johnston.—Diaries kept by Captain William Johnston, beginning 1819.

ORILLIA.

Hale Brothers, publishers of 'The Packet.'—Collection of documents of local interest.

SUTTON WEST.

James Anderson.—Complete records, diaries, &c., kept by James Anderson (a) in command of an overland expedition sent from Great Slave Lake by the Hudson's Bay Company, under instructions from the British Government, in 1854, to follow up clues already obtained as to the fate of Sir John Franklin and his party. Autograph letters of Lady Franklin. Journals and diaries of trips through the Northwest Territories while in the service of the Hudson's Bay Company.

PETERBOROUGH.

Peterborough Historical Society.—Hon. Peter Robinson papers, consisting of lists of early settlers in that district, their location, &c.

BELLEVILLE.

Lieut.-Colonel Ponton.—Original manuscripts printed documents, and copies of the first newspapers published in the county of Hastings.

Dr. Yeomans.—Ketcheson family paper, military records 1812-1841.

KINGSTON.

Queen's College.—Letter book, Richard Cartwright, 1799-1815; Treadwell papers: military records; register of baptisms and marriages kept by Rev. Robt. McDowell, beginning 1800; pamphlets and newspapers of early date.

GANANOQUE.

Charles McDonald.—Joel Stone and John McDonald papers, from 1783, covering a long period.

Miss Colton.—Papers, mostly of a business character, left by R. P. Colton.

8-9 EDWARD VII., A. 1909

BROCKVILLE.

His Honour Judge McDonald.—Original register of births, marriages and deaths kept by Rev. Wm. Smart, 1812-1838; letters of Wm. Lyon Mackenzie; historical sketch of Stone and McDonald families.

W. S. Buell.—Orderly book, 1781-82; letters of Ogle R. Gowan; documents *re* building of steamer William IV. at Gananoque, 1830-34.

H. N. Gardiner.—Muster rolls, Leeds militia, 1825.

'Recorder' Printing Co.—Files of 'Recorder' newspapers from 1820.

James Bissell.—Minute book of Methodist circuit.

O. K. Fraser.—Court registers and records beginning 1789; register of marriages. Johnstown district, 1801-50.

Wm. Richardson (county clerk, Leeds and Grenville).—Hon. Charles Jones papers, dating back to 1793, and consisting of military records, letters of Rev. John Strachan, Ogle R. Gowan, Sir Allan Macnab and other prominent men, old maps and plans, &c. This collection, which was found in the court house at Brockville, is now in the Dominion Archives, having been donated by the counties council of Leeds and Grenville.

W. J. Wright.—Letters written by Wm. Lyon Mackenzie.

SMITH'S FALLS.

James H. Ross.—Record books of Rideau Methodist circuit, 1819-74; record of baptisms, 1825-43.

PERTH.

Mrs. Frank Davis.—Colonel Alex. McMillan papers, relating chiefly to the military settlement at Perth. These have been handed over to the Dominion Archives by Mrs. Davis.

John Hart.—Account and letter books of Perth Military district.

Robert J. Drummond.—Manuscript volume by Andrew Drummond, giving a history of the construction of the Rideau canal, with maps, and plans of the work.

PRESCOTT.

Edward Jessup.—Jessup papers, dealing almost entirely with military matters. 1780-1800. David Parish papers, letters to Parish, who was a resident of Ogdensburg. N.Y., 1813-15.

Rev. H. B. Patton.—District and general orders, issued at Kingston, Montreal. Fort Erie, and Niagara Falls, 1812-14.

MORRISBURG.

Miss Colquhoun.—District and regimental orderly books, 1838-39.

SESSIONAL PAPER No. 15

CORNWALL.

James Dingwall.—Records of Court of General Session for District of Lunenburg, beginning 1789; old marriage registers, &c.

R. A. Pringle, M.P.—Orderly books, 1779-80, and other interesting papers.

JASPER.

Elliott Ballantyne.—District of Johnstown records, and copies of old newspapers.

LANCASTER.

Miss Macdonald.—Diaries kept by Rev. Father John Macdonald, 1815 to 1875, also correspondence covering about the same period.

ALEXANDRIA.

J. A. Macdonell, K.C.—Military records, 1812-13; colours Royal Canadian Regiment, 1794; correspondence from Sir John A. Macdonald.

E. C. Tiffany.—Files of early Canadian newspapers.—These are now in the Dominion Archives.

A. G. F. Macdonald.—Hon. D. A. Macdonald papers—commercial and political.

WILLIAMSTOWN.

G. H. McGillivray.—Register kept by Rev. John Bethune, 1779-1815; orderly books and other documents.

ST. RAPHAELS.

Rev. Father Campbell.—Parish registers beginning 1797.

L'ORIGINAL.

John Higginson.—Papers relating to the seigneurie of Longueuil.

ALMONTE.

Andrew Bell, C.E.—Books and documents of early date.

ARNPRIOR.

Gerald Jarvis.—Papers and correspondence of the late Chief Justice Jarvis, of Prince Edward Island, 1806-1850.

RENFREW.

C. E. Smallfield.—Local historical records.

RICHMOND HILL.

E. Teeffy.—Collection of early newspapers.

8-9 EDWARD VII., A. 1909

MARITIME PROVINCES.

Dr. James Hannay, of Fredericton, who has been working the Archives Branch in the lower provinces, reports that he has examined the principal collections of papers in the following places:—

New Brunswick.—Dalhousie, Campbelltown, Bathurst, Newcastle, Chatham, Richibucto, Dorchester, Hopewell Cape, Hampton, St. John, St. Andrews, Georgetown, Fredericton, Woodstock, Andover, Edmundston.

Nova Scotia.—Digby, Weymouth, Annapolis, Bridgetown, Kentville, Windsor, Yarmouth, Shelburne, Liverpool, Chester, Lunenburg, Bridgewater, Halifax, Amherst, Parrsboro, Truro, Pictou, Antigonish, Guysboro, Sydney, Port Hood, Arichat, Baddeck.

Prince Edward Island.—Summerside, Charlottetown.

In many instances, detailed summaries have been prepared by Dr. Hannay and sent to the Archives. These are available to the student. The books of the registrars of deeds have been examined carefully, and a note has been made of the period covered by each. A fairly complete list has been obtained of the records of births, marriages and deaths. A catalogue of the records of the executive council of Prince Edward Island, the land papers and other records, is now deposited in the Archives Branch.

At Sydney, the Dodd's papers were communicated to Dr. Hannay. At Halifax he examined and catalogued the Aikin and Stewart papers.

In August, 1907, Dr. Hannay was instructed to visit Manitoba, Alberta, Saskatchewan and British Columbia. In the course of his investigations he examined the records in Winnipeg, Selkirk, Portage la Prairie, Brandon, Regina, Prince Albert, Calgary, Edmonton, Vancouver and Victoria. Many valuable records bearing upon the history of the far west have been brought to light, and when all the summaries are complete the department will be in the possession of much useful material of local and general interest.

Arrangements have been made with the province of British Columbia to furnish the Archives Branch with a memorandum of all material discovered relating to the province, so that students in other parts of the Dominion will find it to their advantage to consult the index at Ottawa.

Dr. Hannay is now engaged in examining correspondence deposited in Fredericton relating to boundary questions.

QUEBEC.

The Reverend P. M. O' Leary has continued his investigations in the province of Quebec. The transcription of records in the Archbishop's Palace is nearly complete, and copies have been made of some valuable manuscript plans in the seminary.

A catalogue has been made of a part of the collection of Colonel Neilson, and at a convenient time the work will be completed.

Collections of private papers have been examined by Father O'Leary in Montreal and other places.

SESSIONAL PAPER No. 15

THE HISTORICAL MANUSCRIPTS COMMISSION.

In order that the historical work done by the Dominion Government might be placed upon a sounder and broader basis, I thought it desirable to establish an Historical Manuscripts Commission for Canada to act in an advisory capacity.

By an order in council passed on April 17, 1907, it is set forth:—

‘That the members of the said commission shall be historical scholars of recognized attainments, whom the minister may deem it advisable to invite to take part in the task of shaping and of executing a systematic plan for the prosecution of all those activities that are carried out under the auspices of the Archives Branch.’

The members of the commission are the Hon. the Minister of Agriculture and his deputy; Professor Adam Shortt, of Queen’s University; Professor Joseph Edmond Roy, of Laval University; the Abbé Gosselin, Professor of History in Laval; Professor S. M. Wrong, Toronto University, Professor C. W. Colby, McGill University, and the Dominion Archivist.

In addition to such other duties as may be assigned to the commission by the Governor in Council, it is to examine the translation in the official reports of the branch: to consider what classes of documents should be copied or purchased; the methods to be adopted in publishing documents, and to ascertain the nature and extent of the materials for local history that exist in different parts of the Dominion.

The first meeting of the commission was held on May 10, 1907. As a point of departure, the commission thought it desirable to embody in a minute its deliberate opinion regarding the three following subjects;—

1. Tasks that are most urgently required.
2. Tasks which should be undertaken as increased facilities permit.
3. The methods to be adopted in carrying forward the work of the Archives Branch.

At subsequent meetings of the commission it was decided to make a new classification of the manuscripts; to prepare an inventory of all the documents, so as to render the collections easily accessible to students; and to publish from time to time a series of documents, summaries of papers, reports, &c., in the form of occasional bulletins.

The inventory is now in the course of preparation and will be ready for distribution, it is hoped, during next session.

THE FRENCH ARCHIVES.

During the nineteenth century four Canadians at least visited France for the purpose of making an examination of the manuscripts relating to Canada to be found in the French archives. In 1852-3 Mr. G. B. Faribault looked through the War Office papers at Paris, and had copies made at the Ministère de la Marine of various documents selected from the first 56 volumes of the series C (Correspondence Générale—Canada). In 1865 the Abbé Tanguay made notes on the series GG¹ of the same collection; and in 1874 the Abbé Verreau examined both this collection and also the manu-

8-9 EDWARD VII., A. 1909

script at the Bibliothèque Nationale, the Ministère des Affaires Etrangères and the Archives Nationales. Before leaving France he also paid a hurried visit to Lille, Metz, Rouen, Bordeaux, Toulouse, Anney, Chambéry, Grenoble and Marseilles.

Funds not being available to pay for having copies made of these papers, nothing further was done until 1883, in June of which year Mr. Joseph Marmette was sent to Paris to make a fresh examination of the archives in that city. At the end of the year he published a list of the papers relating to Canada to be found in the Archives Nationales, the Bibliothèque Nationale and the Ministère des Affaires Etrangères. Returning to Paris in August, 1885, Mr. Marmette spent two years in drawing up an inventory of manuscripts relating to Canada preserved at the Mazarin Library, the Library of the Institute and at the Ministère de la Marine. At the latter depository he made an analysis of the whole of series C¹¹, entitled, *Correspondence Générale—Canada*.

The work of copying these papers did not begin until 1891, in which year Mr. Guët, the head of the Archives Department of the Ministère des Colonies (which had meanwhile been separated from the Ministère de la Marine and transferred to the Pavillon de Flore at the Louvre), was asked to have transcripts made of the papers calendared by Mr. Marmette, who had returned to Canada in 1887. By the end of 1894 the first 30 volumes of the *Correspondence Générale* had been copied, and two years later 61 volumes had been sent out to Ottawa.

About this time Mr. Guët was succeeded by Mr. Victor Tautet, who had entered the Ministère des Colonies in 1895. M. Tautet, to quote Mr. Richard's report for 1899, 's'est constitué en quelque sort l'agent de notre gouvernement, dirige l'ouvrage de nos copistes, solde leurs travaux et fait tout ce qu'il peut pour faciliter la tâche que nous avons entreprise.'

In March, 1897, Mr. Edouard Richard was sent to Paris by Dr. Brymner to continue the calendaring begun by Mr. Marmette, whose death in May, 1895, had been a distinct loss to the Archives Branch. In addition to compiling an excellent description of the whole collection at the Ministère des Colonies, Mr. Richard continued the detailed summaries of the documents in this collection that relate to Canada. In his report for 1899 he gave an analysis of the seventeen volumes of the Collection Moreau Saint-Méry, of the twelve volumes of the Randot-Pontchartrain correspondence, of the six volumes of the *Etat-Civil* of Iles Royale and St. Jean, as well as the first 42 volumes of the Series B (letters sent). His summaries of the remaining volumes of Series B have been published since his death in the reports for 1904 and 1905.

In addition to losing in March, 1904, the eminent services of Mr. Edouard Richard, the Archives Branch was on June 9, 1907, likewise deprived of the aid of M. Victor Tautet. At that date some 270 volumes, including Series B as far as volume 23, had been copied and sent out to Ottawa.

The work in Paris remained at a standstill until the autumn of 1907, since which date some 11 volumes have been copied. Two copyists are now at work at Series B in the Colonial Office, while of the Fonds Amérique in the Ministère des Affaires Etrangères some five volumes have been copied. A copyist is also engaged in transcribing those manuscripts in the Bibliothèque Nationale that relate to Canada.

SESSIONAL PAPER No. 15

Before being sent to Ottawa each volume is carefully collated by Mr. Th. Beauchesne, of the Baie de Chaleur.

ARCHIVES WORK IN LONDON.

During the fiscal year 1907-8, the work of the Archives Branch in London has been carried on without interruption. At the Public Record Office progress has been made with the papers relating to the Maritime provinces. In addition to the instructions to the governors of these provinces to 1840, copies have been made of the Nova Scotia papers as far as 1804, those of Prince Edward Island to 1813, and those of New Brunswick to the year 1825. The logs of a number of the British warships present at Louisburg in 1745 and 1756 have also been copied. Transcripts have also been made of the papers relating to the negotiations which culminated in 1783 in the Treaty of Versailles. In this connection the thanks of the Archives Branch is expressed to Lord Lansdowne for his kindness in allowing copies to be made of the Shelbourne manuscripts in his possession.

The records of the Canadian post office which are to be found at the General Post Office in London have been copied as far as the year 1843. The death in February of this year of Mr. J. G. Hendry, the curator of the Record room at the G. P. O., has been a great loss. Fortunately Mr. Hendry had already brought to light and placed in order ready for copying the records of the Canadian post office for several more years.

The minute books of the Hudson's Bay Company have now been transcribed as far as No. 14, which embraces the fiscal year 1691-2.

I have now to refer more particularly to the work that is being done in the Archives Branch at Ottawa.

This department is divided into three main sections, viz.; 1 manuscripts; 2 maps and plans; 3 printed material.

Manuscript Section.

At the time that the branch was reorganized in 1904, we had then the following collections of manuscripts;—

A. Bouquet collection..	35
B. Haldimand collection..	247
C. Military..	1,064
F. Official correspondence under the French régime.. . . .	223
M. Correspondence of the Colonial Secretaries and miscellaneous documents..	719
Q. Correspondence of the Colonial Office with the governors of Upper and Lower Canada..	869
	<hr/>
	3,157

8-9 EDWARD VII., A. 1909

Since that time the following collections have been added to the manuscripts already in our possession:—

Series.	Nature.	Number of Volumes.
D.	Durham papers.	12
E.	Registers and documents from the Privy Council, Ottawa	1,000
Fi.	Registers and documents from the Finance Department.	24
G.	Correspondence of the governors with Downing street..	572
GS.	Correspondence of the office of the Governor-General ..	105
MD.	Correspondence and documents from the Militia Department.. . . .	70
S.	Registers and correspondence from the State Department, Ottawa.. . . .	7,841
		<hr/> 9,624

If we add to these new acquisitions the collections acquired since 1904, viz.:—

C.	Military papers.. . . .	968
F.	French correspondence.. . . .	149
M.	Miscellaneous documents.. . . .	327
		<hr/> 1,444
Making a total of.. . . .		11,068

Therefore the number of manuscript volumes has been quadrupled since 1904. To this number may be added nine volumes of correspondence from the Indian Department dating from 1723, and 280 deeds of surrender.

It is unnecessary for me to dwell upon the value of the manuscripts now deposited in the Archives. The inventory of the collections which is now in the course of preparation will be published during the coming year, and will serve as a preliminary guide to the Archives. A general index of the printed reports of the branch since 1873 is now complete. These two publications will facilitate research while the work of a definite classification is going on.

I should call attention to the fact that in addition to the extensive collection which has been copied in England relating to the history of the Maritime provinces, we have been engaged in making research concerning the boundary fishery questions.

The documents acquired in this manner have proved of great service in the preparation of the cases which are to be submitted by the Government to arbitration. We have now, for example, original or copies:—

- 11 volumes relating to the Hudson's Bay.
- 20 volumes Selkirk documents.
- 11 volumes Oswald correspondence relating to boundaries and fisheries of Labrador and Maritime provinces.

And in order to facilitate the preparation of a history of the Canadian post office. 14 volumes have been copied in the General Post Office in England.

SESSIONAL PAPER No. 15

This supplementary copying in England has not interfered with regular transcription of historical documents which has been going on for years.

The removal to the Archives from different departments of documents prior to confederation, and the arrangement of these records, has entailed considerable work, although the arrangement is only temporary. The records after being examined and put in chronological order have been placed in portfolios. While a part of the staff is engaged in this work which requires close and particular attention, several members are employed in preparing a card index indicating the names of persons, subjects and localities. About 700,000 of these cards have been prepared and arranged.

A nominal index has been made for the series A, B, F and Q, and a similar index for the series C is in course of preparation. Although the arrangement of the various collections on one is not final, it permits access to the volumes with some degree of facility.

The removal of departmental records to a central office and the numerous acquisitions of the last three years have stimulated historical research in all parts of the Dominion.

The demands for information are constantly increasing and entail considerable correspondence. Men of experience only can be relied upon for this branch of inquiry. A register is kept of all such investigations, and of the information supplied, so that the notes accumulated will be of service to future students.

The inquiries are not limited to questions of historical character; there are frequent applications for searches relating to lands, the origin and genealogy of families, municipal matters, and questions affecting civil rights. The land registers which have been transferred to the Archives, and those which have been copied in other provinces, facilitate the investigations of lawyers. The register of marriages, births and deaths are also frequently consulted.

The services rendered by the Archives to the cause of historical science has been recognized by specialists far beyond our own borders, and I am pleased to note that a publication under the direction of the branch has been chosen by the University of Oxford as one of the text books for examination in the school of modern history. It is evident that the liberal grant made by parliament, which has been expended with care, has produced excellent results.

Map Division.

The division contains now 4,285 plans, maps, and charts, the larger portion of which are original. During the course of the year 1,884 maps have been restored and mounted on linen. A classification has been commenced, and a general index of seven thousand cards has already been made. The cards give the full title of the map or plan, the date and name of the author. The demands for copies of maps and plans is increasing, which is proof that the public recognize the value of this division.

Printed Matter.

During the last fiscal year 1,263 new volumes have been added to this division. The volumes deal mainly with questions pertaining to our history. A record is made

8-9 EDWARD VII., A. 1909

of all new books published relating to Canada, and a card index is kept of all the leading articles in newspapers or reviews which have any bearing on Canadian affairs. The value of this work to the future historian or bibliographer will be incalculable.

A new feature in connection with the work of the Archives has been the collection of prints and engravings illustrating the development of Canadian life. This department is a popular one, judging by the demands from authors for permission to copy the prints, and from the words of appreciation by the numerous visitors to the Archives.

III.—PATENTS OF INVENTION.

The following tables show the transactions of the Patent Branch of the Department of Agriculture from April 1, 1907, to March 31, 1908:—

Applications for Patents.	PATENTS AND CERTIFICATES GRANTED.			Caveats.	Assignment of Patents.	Notices under Section 8.
	Patents.	Certificates.	Total.			
7,406	6,774	744	7,518	317	2,900	607

DETAILED STATEMENT, Patent Office Fees.

Patents.	Assignments.	Caveats.	Copies.	Subscriptions to Patent Record.	Notices to apply for Patent.	Sundries.	Total.
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
166,030 53	6,330 18	1,675 00	1,887 72	516 52	1,815 25	227 29	178,482 49

The Canadian patentees were distributed among the provinces of the Dominion as follows:—

Ontario.	Quebec.	Manitoba.	British Columbia.	Nova Scotia.	New Brunswick.	Saskatchewan.	Alberta.	Prince Edward Island.	Yukon.
424	178	61	52	27	25	15	25	2	0

SESSIONAL PAPER No. 15

Patents issued to residents of Canada, with the ratio of population to each patent granted:—

Provinces.	Patents.	One to every
British Columbia.....	52	4,996
Ontario.....	424	5,252
Manitoba.....	61	6,442
Alberta.....	25	8,936
Quebec.....	178	9,875
Territories and Yukon.....	6	11,963
Saskatchewan.....	15	12,689
New Brunswick.....	25	13,496
Nova Scotia.....	27	17,235
Prince Edward Island.....	2	50,502

Patents issued to citizens of foreign countries.

Countries.	Patents.	Countries.	Patents.
United States of America.....	5,030	Russia.....	5
Great Britain.....	313	Norway.....	13
Germany.....	214	Newfoundland.....	4
Australia.....	76	Japan.....	3
France.....	91	Mexico.....	4
New Zealand.....	31	India.....	1
Sweden.....	46	Cuba.....	3
Belgium.....	18	Natal.....	1
Austria.....	14	Nicaragua.....	1
Italy.....	14	Finland.....	5
Switzerland.....	13	Brazil.....	1
Denmark.....	29	Turkey.....	1
Transvaal.....	6	Russian Poland.....	1
Hungary.....	8	Holland.....	10
Algeria (North Africa).....	1	Grand Duchy of Luxenbourg.....	2

Statement of the number of patents issued under the Act, on which the fees are paid for periods of six, twelve or eighteen years, at the option of the patentee; and of patents on which the certificates of payments of fees were attached after the issue of patents originally granted for periods of six and twelve years.

Period for which Fees were paid on First Issue.			Patents on which Certificates were attached after issue.		Re issues.
6 years.	12 years.	18 years.	6 years.	12 years.	
6,750	8	16	724	20	12

The total revenue for the year ended March 31, 1908, was \$178,482.49, exceeding the receipts in all previous years, and resulting in an increase of \$8,933.71 over the same period in the preceding year, thus averaging a monthly increase of \$744.48.

8-9 EDWARD VII., A. 1909

The total number of reports issued by the examiners during the year was 10,111. and twelve patents were surrendered and reissued.

Out of the total number of patents granted by this office during the year, there were 5,030 issued to inventors, or their assignees, resident in the United States, being seventy-four per centum of the whole issue.

This branch of my department receives regularly the official reports of patents from Great Britain, Australia, United States, Mexico and Japan, in exchange for the Canadian Patent Office Record.

The number of new applications for patents presented during the year was 7,406. being an increase of 329 over the previous year, and an increase of 653 in the number of patents granted.

The number of notices filed under authority of section 8 of the Patent Act was 607, yielding a revenue of \$1,815.25

The attention of applicants for patents should be directed to the necessity for the greatest care in the preparation of their applications, a work which is generally advantageously performed by patent solicitors not only in Canada, but in other countries where patent laws are in active operation.

The utmost care and diligence have been observed by the Patent Office in scrutinizing all applications for patents, and in cases where the alleged invention possessed none of the requisites of a patent, under the provisions of the Patent Act, the applications were refused.

Patentees under the instalment plan who have paid fees for one or more partial terms of their patents not infrequently postpone payment of the further fees required to keep their patents in force until after the date within which they are payable; consequently, the patents expire and it is not in the power of the office to revive them. A revival can only be secured by a private Act of Parliament, the obtaining of which entails considerable expense to the patentee. The attention of patentees is therefore called to the necessity of making their payments in time.

In dealing with petitions for extensions of time to manufacture or import under sections 38 and 39, the law is applied according to its strict and literal meaning, and the petitions are granted only when the petitioner has clearly established, to the satisfaction of the office, by affidavit or solemn declaration that the failure to manufacture or import is due to no fault of his, but to reasons beyond his control. Although a large number of these petitions were presented during the past year, it was seldom that such a case was made out as to warrant the granting of the desired extension.

The requirements of the law in regard to manufacture have been kept in mind when considering applications from patentees or their assignees to have their patents brought under the conditions of section 44 of the Act. (Compulsory License system.) The applications which have been granted are those relating to patents for inventions such as the following:—

Certain patents for an art or process; certain patents for improvements on a patented invention when both patents are not held by the same person; patents for certain appliances or apparatus used in connection with railways, telegraph, telephone

SESSIONAL PAPER No. 15

and lighting systems, and other works usually under the control of public or large private corporations, and which appliances or apparatus cannot be installed or constructed without the consent of such corporations; and certain patents for inventions which are manufactured or constructed only to order and are not, according to custom, carried in stock.

IV.—COPYRIGHTS, TRADE MARKS, INDUSTRIAL DESIGNS AND TIMBER MARKS.

STATEMENT of Fees received by the Copyright and Trade Mark Branch from April 1, 1907, to March 31, 1908.

Months.	Trade Marks.	Copy- rights.	Designs.	Timber Marks.	Assign- ments.	Copies.	Totals.
1907.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
April	3,101 00	197 50	75 75	6 00	37 00	34 75	3,452 00
May.....	2,218 00	133 50	76 00	2 00	10 00	21 25	2,460 75
June.....	2,490 65	101 25	25 00	4 00	9 00	18 15	2,648 05
July.	2,320 00	121 60	165 00	4 00	17 00	26 25	2,653 85
August.....	2,353 09	113 50	30 00	4 00	28 00	6 50	2,535 09
September	1,999 41	115 00	25 00	6 00	19 00	17 25	2,181 66
October.	2,926 50	91 00	59 00	8 00	24 00	58 75	3,167 25
November.. . . .	1,560 50	139 00	35 00	12 00	38 00	67 00	1,851 50
December	1,646 00	136 50	299 00	66 00	22 00	17 25	2,186 75
1908.							
January	1,602 75	102 50	45 00	11 00	38 00	21 75	1,821 00
February.	2,060 65	112 25	153 75	6 00	18 00	28 00	2,378 65
March	2,516 64	95 00	57 00	11 00	28 50	28 60	2,736 74
Totals.....	26,795 19	1,458 60	1,045 50	140 00	288 50	345 50	30,073 29

The particulars of the registrations made by the Trade Mark and Copyright Branch of the Department of Agriculture during the year ended March 31, 1908, are as follows:—

I. Copyrights—	
Full copyrights without certificates.. . . .	1,000
Full copyrights with certificates.. . . .	151
Temporary copyrights without certificates.. . . .	14
Temporary copyrights with certificates.. . . .	3
Interim copyrights without certificates.. . . .	51
Interim copyrights with certificates.. . . .	21
	————— 1,240
II. Trade Marks.. . . .	848
Renewals of specific trade marks	17
III. Industrial designs.. . . .	182
Renewals.. . . .	10
IV. Timber Marks.. . . .	33
V. Assignments:.. . . .	136
	—————
Total registrations.. . . .	2,466

The following table shows a comparative statement of the business of this branch from 1897 to 1907, inclusive:—

Year.	Letters Received.	Letters Sent.	Copyrights Registered.	Certificates of Copyrights.	Trade Marks Registered.	Industrial Designs Registered.	Timber Marks Registered.	Assignments Registered.	Fees Received.
									\$ cts.
1897.....	2,606	3,548	756	273	446	75	13	94	14,101 93
1898.....	2,576	3,453	734	275	423	136	15	114	13,535 17
1899.	2,487	2,910	702	237	430	112	5	117	14,161 28
1900....	2,679	3,213	893	247	447	126	22	136	14,782 53
1901.....	2,605	3,211	888	249	521	146	24	183	16,823 26
1902.....	2,687	3,257	900	196	528	164	26	222	17,703 09
1903.	2,687	3,211	900	176	557	88	23	272	18,086 25
1904.....	2,858	3,293	1,106	228	621	107	25	118	20,647 30
1905....	3,367	3,902	1,130	189	661	139	22	154	23,706 77
1906.....	5,340	5,193	1,228	169	1,119	125	47	282	33,107 13
1907.....	4,475	4,353	1,240	175	848	182	33	136	30,073 29

V.—PUBLIC HEALTH AND QUARANTINE.

The most noteworthy event within this year has been the breaking out of the bubonic plague in the United States of America.

There have been cases of this disease in San Francisco, Emeryville, Point Richmond and Oakland in California, and in Seattle on Puget Sound, State of Washington.

After one recognized case in May the disease made its appearance in San Francisco in August, and thence spread to the other places in California above mentioned.

In San Francisco there have been 121 cases of plague verified bacteriologically, and 77 deaths. Many rats infected with the disease have been also found.

In Seattle the bubonic plague appeared in October; 6 cases occurred with 6 deaths: 5 whites and one Asiatic. The rats in Seattle also gave proof of infection. The last plague-infected rats were found on the 26th and 30th instant.

Immediately upon the outbreak of this disease in Seattle I sent my Director-General of Public Heath there to study the situation. Special medical inspections were established at Victoria, Vancouver, Blaine, Huntingdon, Grand Forks, Northport (for Rossland and Nelson), and Kingsgate, with guards at Rykert's and Gateway. Special precautions were taken and are still being enforced to prevent the importation of rats by sea or land from infected ports and places.

SESSIONAL PAPER No. 15

As there have not been any further cases of plague reported from Seattle since October 31, I am to-day raising the frontier and port special passenger inspection for plague, but the precautions against the importations of rats are to remain in force.

The bubonic plague has been present during the year in Africa, Arabia, Australia, Brazil, Cape Colony, Chile, China, Ecuador, Egypt, Great Britain (Glasgow), Hawaii, India, Japan, Mauritius, Peru, the Straits Settlements and Trinidad.

Cholera has prevailed in Arabia, Ceylon, China, India, Japan, Korea, Philippine Islands, Russia, Straits Settlements, and Turkey.

Smallpox has again this year been world-wide in its prevalence. Cases of this disease have come from both the Orient and from Europe to my several stations, but they have been stamped out there, and the infection not permitted to pass inland.

The reappearance of this disease in epidemic form in the State of Minnesota caused me to appoint temporary medical inspectors along the frontier north of that state. Such inspectors have been appointed and are now at work at Fort Frances, Emo and Rainy River, in Ontario, and at Sprague, Emerson, Gretna, Morden, Crystal City, Killarney, Boissevain, Deloraine and Waskada in Manitoba.

The administration of leprosy has been carried out by me throughout the Dominion.

Circulars of warning and instruction in public health matters have been sent to my coast and frontier public health officers, from time to time as occasion demanded.

The diseases which have been brought to my maritime quarantine stations during the year and stamped out there are : Smallpox, beriberi, diphtheria, scarlet fever, enteric fever, measles and chicken-pox.

The port of Prince Rupert has been selected by the Grand Trunk Pacific Railway Company for their Pacific terminal point. Although passenger travel through this port is not to be expected for several years, yet with the beginning of the building of the Pacific section of the road, supplies, materials, and men must come to the port, so that a merchant marine quarantine will be at once required; this to be elaborated into a passenger quarantine station later on. In view of these facts, I sent my Director-General of Public Health to inspect and report upon the quarantine facilities and requirements of Prince Rupert.

VI.—CENSUS AND STATISTICS.

The final report of the census of Manitoba, Saskatchewan and Alberta, taken in the summer of 1906, has been published during the year. The report contains 12 tables of population and 15 tables of agriculture. The tables of population give statistics by sex, age, conjugal condition, birthplace and immigration for the census years 1906 and 1901. The tables of agriculture show the number of horses, horned cattle, sheep and lambs and swine, the area of yield of field crops and the number of farms. Summaries of the most important of these tables were given in last year's report. Early in 1907 circular letters and schedules were sent to specially selected correspondents in each district of the Northwest provinces asking for the actual aver-

8-9 EDWARD VII., A. 1909

age yield for his own farm and his estimate of the average yield for the township in which he resided. These returns have formed the basis for the estimate of the yield of the harvest of 1906, which is included in the report, and it is believed that the results are substantially correct. The comparative yield of field crops in the three provinces in 1900, 1905 and 1906 is as follows:—

Kinds of Crops.		1900	1905	1906
N. W. Provinces.				
Fall wheat				
On fallow land.....bush.		—	240,732	384,998
On other land"		20,505	869,335	1,840,283
Spring wheat				
On fallow land....."		—	24,921,710	29,428,632
On other land....."		23,436,354	56,429,850	78,932,911
Oats"		16,653,681	68,810,855	110,569,628
Barley....."		3,141,121	10,971,775	18,684,609
Rye....."		37,217	163,599	323,904
Flax"		85,011	608,242	1,818,780
Potatoes"		3,155,391	5,569,613	9,489,081
Other field roots....."		464,042	710,356	2,081,932
Sugar beets.....ton		—	19,907	32,075
Forage crops."		90,852	105,828	123,022
Sown hay....."		—	174,689	359,701
Prairie hay....."		904,481	2,630,313	—

The Canada Year Book, 1906, being the second volume of the second series of the Year Book, has been published. The statistics have been brought down to the end of the fiscal year, 1906, and a number of new tables have been added. The principal additions are the census of manufactures for the Dominion taken in 1906, and the census of population and agriculture for the Northwest Provinces, taken in the same year. The tables of the Year Book for 1907 have been compiled and the book is now in the hands of the printer.

The report of criminal statistics for 1905 was issued early in the year, and the report for 1906 is now in press.

In 1906 a census of manufactures was taken through the medium of the Post Office, for the calendar year 1905, and the statistics published in Bulletin II. The schedules were mailed to every manufacturer in Canada, and in nearly every instance the information asked for was willingly supplied and the results show the rapid development of our manufacturing industries.

In the census of 1901 returns were collected only from establishments employing five hands and over, but in the census of 1906 all manufacturing establishments were included. Therefore in preparing comparative tables for the two census years statistics of establishments employing less than five hands in 1905 were excluded. The total number of establishments in 1905 was 15,796, while the number with five employees and over was 12,547. The following table gives the principal statistics of the Dominion for establishments employing five hands and over in 1900 and 1905:—

	1905.	1900.	Increase.
Establishments	12,547	14,650	2,103*
Employees	383,920	339,173	44,747
Capital \$	833,916,155	446,916,487	386,999,668
Salaries and wages.. . .	162,155,578	113,249,350	48,906,228
Value of products	706,446,578	481,053,375	225,393,203

* Decrease.

SESSIONAL PAPER No. 15

The apparent decrease in the number of establishments is due chiefly to the fact that in 1905 in certain large establishments where several kinds of articles were manufactured all the returns of an establishment have been embraced under the head of the principal kind, whereas in 1900 separate returns were given for each kind. Another reason is the tendency towards the merging of several small establishments into one large concern. The table given below shows the principal statistics in 1905 for all establishments:—

Establishments	15,796
Employees	392,530
Capital	\$846,585,023
Salaries and wages	165,100,011
Value of products	718,352,603

The following comparative table shows that the value of products in every group of industries, with the single exception of shipbuilding, has very largely increased:—

Groups of Industries.	1900.	1905.	Increase.
	\$	\$	\$
Food products	125,202,620	172,017,002	46,814,382
Textiles	67,724,839	84,370,099	16,645,260
Iron and steel products	31,878,402	52,587,051	17,708,649
Timber and lumber, etc	80,341,204	109,500,970	29,159,766
Leather and its finished products	34,720,513	41,201,872	6,481,359
Paper and printing	20,653,028	32,773,880	12,120,852
Liquors and beverages	9,191,700	13,928,701	4,737,001
Chemicals and allied products	11,437,300	15,290,822	3,853,522
Clay, glass and stone products	7,318,582	13,558,921	6,240,339
Metals and metal products *	19,561,261	50,063,669	30,507,408
Tobacco and its manufactures	11,802,112	15,189,720	3,387,608
Vehicles for land transportation	19,971,605	36,911,124	16,939,519
Vessels for water transportation	2,013,668	1,892,253	151,415†
Hand trades	599,329	1,433,753	834,424
Miscellaneous	35,607,212	65,721,741	30,114,529
Totals	481,053,375	706,446,578	225,393,203

Other than steel. † Decrease.

Statistics of field crops and live stock for the provinces of Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island have this year been collected through correspondence with the farmers of those provinces, and the results are published in Bulletins III., IV. and V. It is not necessary to deal with Bulletins III. and IV. (field crops and live stock of the Maritime provinces and Ontario), as the statistics are given in more detail and with additional data in Bulletin V.

Bulletin V. is the final report of the census of agriculture for Ontario, Quebec, and the Maritime provinces, 1907. In Ontario the census was undertaken jointly by the Census and Statistics Office and the Ontario Bureau of Industries, the schedules being distributed and received through the post office by the former office and the returns being compiled by the latter. For the other provinces the work was done entirely by the Census and Statistics Office. The tables of this bulletin show by provinces and counties for 1907 and 1901 acreage of farm land cleared, in all crops and

8-9 EDWARD VII., A. 1909

in orchard and garden; acreage and yield of field crops and areas of field crops per 100 acres of occupied farm land, and the number of live stock by counties in 1907 and by provinces in 1901, together with the number of live stock per 100 acres of occupied land. In the six years 1901-1907, there was an increase of farm land cleared of 900,429 acres in Ontario, 1,092,652 acres in Quebec, 259,326 acres in New Brunswick, 590,527 acres in Nova Scotia and 35,058 acres in Prince Edward Island; the increase of land in all crops was 567,008 acres in Ontario, 556,049 acres in Quebec, 192,831 acres in New Brunswick, 163,306 acres in Nova Scotia and 56,485 acres in Prince Edward Island; while the increase in orchard and garden was 64,360 acres in Ontario, 44,084 acres in Quebec, 7,556 acres in New Brunswick, 21,193 acres in Nova Scotia and 2,957 acres in Prince Edward Island. In the comparative tables of the two census years a large decrease is noticeable in the acreage and yield of fall wheat and spring wheat in Ontario, the decrease of the former being 438,772 acres and 6,328,591 bushels, and of the latter 227,894 acres and 4,064,892 bushels. This decrease is no doubt due to the larger and cheaper production of these grains in our Northwest provinces.

In the five provinces there is an increase in acreage and yield of oats, barley, buck-wheat, beans, potatoes, field roots, hay and corn for forage, an increase in acreage of corn in ear, mixed grains, and cereals, a decrease in acreage and yield of fall wheat, spring wheat, rye and pease and a decrease in yield of corn in ear and cereals.

The number of horses in the five provinces in 1907 was 1,240,171, of milch cows 2,353,456, of other cattle, 2,833,762, of sheep 2,478,688, of swine 3,006,234, and of poultry 20,565,580. Quebec shows a decrease in the number of sheep and Prince Edward Island of milch cows and sheep. The other provinces show increases in every class of live stock. Quebec leads with the largest actual increase of milch cows and is second with swine; Ontario is first with other cattle and swine, and Nova Scotia with sheep. The following table shows the increase of live stock in the six years by provinces:—

Provinces.	Horses.	Milch Cows.	Other Cattle	Sheep.	Swine.	Poultry.
Ontario	77,430	133,592	365,877	63,752	518,992	3,985,619
Quebec	68,395	141,701	76,723	-23,428*	341,452	1,413,899
New Brunswick.....	9,907	22,714	15,999	69,920	46,848	374,250
Nova Scotia.....	8,244	15,417	25,104	106,391	32,796	346,803
P. E. Island	769	-2,512*	4,988	-14,189*	7,589	154,635

* Decrease.

Statistics of butter and cheese are now being collected and compiled for the calendar year 1907, circular letters and schedules for returns having been mailed to owners or managers of all creameries and cheese factories in the Dominion.

The whole is respectfully submitted.

SYDNEY A. FISHER,
Minister of Agriculture.

PUBLIC HEALTH.

No. 1.

REPORT OF THE DIRECTOR GENERAL OF PUBLIC HEALTH.

(F. MONTIZAMBERT, I.S.O., M.D.Ed., F.R.C.S.E., D.C.L.)

March 31, 1908.

SIR,—I have the honour to submit this my report as Director General of Public Health for the year ending this day.

The most important public health event during the year has been the occurrence of cases of the bubonic plague in San Francisco, and other places in the state of California, and in Seattle in the state of Washington, this last place being in close proximity to and in daily close communication with this country, at many points, maritime and frontier.

The usual threatening of this disease from the Orient, and of this and other infectious diseases from the Orient and from Europe, South America, &c., have continued since my last report.

Strict measures, ordinary and special, have, therefore, been approved by you for the sanitary protection of the country.

Circulars of warning and instruction were issued from time to time to the regular quarantine officers and to the customs officers who are also ex-officio quarantine officers at the unorganized maritime and inland ports.

As early last spring as navigation permitted I proceeded by your instruction to the St. Lawrence quarantine station, Grosse Isle, to give Mr. George Dancause, an old and recently superannuated employee, the medal of the Imperial Service Order graciously conferred upon him by His Majesty in recognition of his long and faithful services. The investiture was in accordance with my instructions carried out on the scene of his labours and before a full gathering of his former fellow employees.

In June I proceeded by your instruction to inspect the Pacific coast stations of Vancouver and William Head, Victoria. And thence I went up to Prince Rupert, the terminal point on that coast of the Grand Trunk Pacific Railway. I made a careful inspection of that place and the neighbouring harbours. My report thereupon I had the honour to submit to you under date the 31st July last.

In view of the reported probability of railway extension to the west shore of Vancouver Island, I returned south along that coast and inspected for your information the quarantine facilities of its various sounds and inlets.

In August I inspected the leper lazaretto at Tracadie, N.B., the quarantine stations at Grosse Isle, Chatham, St. John, Halifax, Sydney, Louisburg and Charlottetown, and the quarantine buildings at Pictou, N.S.

In September I attended the meeting of the Canadian Medical Association in Montreal. The next annual meeting is to be here in Ottawa June 9, 10, 11 next. The association having now adopted a national constitution decided that its first meeting as a truly national body should be held in the national capital. The association did me the honour of electing me its president.

In the beginning of October I was present as your delegate at the annual meeting of the American Health Association held in Atlantic City, New Jersey.

8-9 EDWARD VII., A. 1909

At both the meetings of these two associations renewed resolutions were adopted in favour of the establishment of national departments of health.

I left again for the Pacific coast by your command on October 23, immediately upon the receipt of the news of the occurrence of cases of bubonic plague in Seattle in the state of Washington.

Before I left Ottawa, you had authorized me to appoint temporarily by telegraph the same inspectors who had been at work for smallpox. I also before leaving despatched to Dr. Watt by express the supplies received within the last year of Yersin's serum for the prevention and treatment of the bubonic plague. Anticipating some such emergency as this, I have been getting it out in monthly supplies for several years past, from the Lister Institute of Preventive Medicine, in London, where it is made according to the process of Yersin, one of the workers in the Pasteur institute. It remains good for a year, and does not depreciate more than ten per cent in eighteen months.

I reached Victoria on the 30th, where I saw Dr. Fagan, of the Provincial Board of Health; Dr. Robertson, the city health officer; Dr. Milne, of the Immigration Service; Dr. Fraser, who acts for you on occasion; and the Mayor of the city; and arranged for precautionary measures to be taken at Victoria, in all of which they promised co-operation. Here and at Vancouver I arranged that all boats from Puget Sound and from the Orient should be breasted out six feet from the piers to prevent rats jumping on and off; to have their mooring lines protected by metal discs, and the gangways reduced as far as possible and guarded by quarter masters watch and watch about. I arranged also for the fumigation with sulphur on the lay off days of any boats running a ferry service to the Sound, which lay off for one day in the week at Victoria or Vancouver.

When advising with the civic authorities of Victoria and Vancouver, instruction was given for the destruction of garbage to reduce the food supply of rats, and the poisoning of the rats when the food supply had been reduced, and the offering of a premium for each rat brought in.

The companies had arranged for the inspection at Seattle of the passenger boats between that port and Vancouver and Victoria; and I put Dr. Fraser on duty to inspect all other boats arriving from Puget Sound ports. I also introduced him, as Dr. Watt was to be absent, to communicate at once with the customs officers of Chemainus, Ladysmith, Nanaimo, Union and Comox, and to instruct them to treat Puget Sound vessels coming to them direct, under the regulations for this subject, calling for medical men to inspect them as suspected vessels.

On the evening of that same day I crossed to Seattle, reaching there at ten p.m., and went direct to the pier where the *Princess Beatrice* was leaving for Victoria at 10.30. I found Dr. McDowell on duty there, and a notice up at the shore end of the passenger gangway to the effect that no passengers were allowed on board before 9.30, at which hour Dr. McDowell arrived each evening, to inspect them. As soon as that boat sailed, I went over to another pier, where the steamer *Iroquois* left for Vancouver at midnight. There I found Dr. Kellog on duty, and a similar notice to passengers, limiting their reception on board to the last hour before departure. Both of these gentlemen appeared to be thoroughly up in their work, and to be conscientiously performing their duties. The next morning, October 31, I was down at another pier at 7.30 to see the inspection of the *Chippewa*, leaving daily for Victoria at 8.30.

I spent the most of the morning in the plague laboratory, where I thoroughly convinced myself that there was no doubt whatever of the presence of the bubonic plague in Seattle. The micro-organisms under the microscope from the glands of the Chinaman that died; from the sputa of the white woman who was dying from the pneumonic form that morning, and who died in the afternoon of the same day; and from the dissections of the guinea pigs and rats which were shown to me, and which had been killed by the inoculation from the human patients; rendered this matter beyond doubt. At the time I left Seattle there had been six cases—including the two above indi-

SESSIONAL PAPER No. 15

vidually referred to—all fatal; one of the Chinamen with the bubonic form, and the other five white people with the pneumonic form.

The United States Government has made the dealing with plague in Seattle an entirely federal matter; having, at the request of the state of Washington and the city of Seattle, sent twelve of the medical officers of the United States Public Health Service for action at Seattle and its neighbourhood.

I had a long conference with Dr. White, the chief officer of the United States Public Health Service, and with the medical officers of the state and the municipality; and they agreed to take the same precautions for all vessels in Puget Sound as I had already established for vessels at British Columbia ports. Dr. White used the federal authority delegated to him to issue orders that same afternoon to all the railway companies which connect with Seattle, instructing them to sprinkle chloride of lime in the empty freight cars, and that cars standing at station platforms should be kept closed, except when it was absolutely necessary to have them open, and in all cases to be closed at night.

I also saw Mr. Croker, of the Inland Navigation Company; Mr. Burns, of the Alaska Navigation Company; Mr. Cook, of the Western Steam Navigation Company; and the Frank Waterhouse Company, managers of the Boston Tow Boat Company and freight boats to the Orient.

The president of the State Board of Health being absent in Europe, and his work being done by Dr. Yocum, of Tacoma, I went over to Tacoma on Friday morning, and saw Dr. Yocum, and also called on Dodwell and Company, of the Blue Funnel Line, which load at Tacoma and then touch at Vancouver and Victoria. All these gentlemen—both the sanitary officers and the agents—received me most kindly; expressed themselves as being very glad to get suggestions from me, as we were all working for the common good, and undertook to have all suggested precautions carefully carried out.

On Sunday, the 3rd, and Monday morning, the 4th, I had conferences with Dr. Underhill, the city health officer Vancouver; Dr. McPhillips, who was replacing our Dr. McKechnie for the time; Dr. Brydon Jack, and Dr. Stuart, who came down for the purpose from Mission Junction. I saw also Mr. Brown, of the Canadian Pacific Railway Steamship Line, and Mr. Burns, of the Great Northern, about the breasting out, &c., of their vessels, and the care of their freight cars.

During the next few days I visited and conferred with our medical inspectors at Blaine, Huntingdon, Grand Forks, Northport, and Kingsgate, in British Columbia.

I am glad to be able to report to you that my mission was a successful one, and I cannot but feel that it has led to a greater degree of protection for Canada against this dread disease. My personal investigations in Seattle have tended to more cordial co-operation with us on the part of the United States steamboat and railroad lines, and have also encouraged our frontier medical officers in taking up their professional duties in connection with this threatened pestilence.

The press on both sides of politics gave great credit in repeated issues to the government for its prompt action in sending out its senior sanitary officer to take charge of this matter.

Precautions against the importation of rats are still being maintained. Two rats, in which plague was positively determined, were found at Seattle so late as the 26th and 30th instant.

The two new steamers for the quarantine service delivered to you this year have proved entirely satisfactory. They have added much to the efficiency of the service at their respective stations. The *Alice*, built by the Canadian Shipbuilding Company at Toronto, was sent by you to the quarantine station at Grosse Isle. The *Madge*, built by the British Columbia Marine Railways Company, Limited, at Esquimalt, you devoted to service at the William Head Station on the Strait of Juan de Fuca.

Of the seagoing and other good qualities of the *Madge* I can speak from personal experience. Only delivered to us in June, I took her on July 2, and a single crew ran

8-9 EDWARD VII., A. 1909

her for seventeen consecutive days up to Prince Rupert and Port Simpson, and back outside Vancouver Island. We met some heavy weather in the open Pacific, but the only delay caused by the boat was one of about two hours from a heated bearing. A very satisfactory record for so new a steamer.

Under authority of 'An Act respecting Leprosy,' passed in June, 1906, which gives you administration in leprosy throughout the Dominion, arrangements were made to meet the wishes of the eight Chinese lepers you took over at D'Arcy Island, B.C., lazaretto, and by your authority they were transferred in May last back to China. This was only done after everything had been arranged for their reception at the leper mission amongst their own people near Canton. Since that, three other Chinese lepers have been discovered in the initial stages of the disease, and they also have been sent home to China.

After the lepers left D'Arcy Island their old shacks were destroyed by fire.

There are not now as far as is known any cases of leprosy left in British Columbia.

As, however, it is a disease with a period of incubation lasting often over years, it is quite possible that some amongst the Asiatic population of the province may have contracted it in the Orient and may develop it later. To meet this possibility two new shacks of concrete have been erected at D'Arcy Island for their reception temporarily or permanently as the case may be.

At the Tracadie lazaretto continued benefit follows the use of the Chaulmoogra oil treatment in cases in the earlier stages of the disease. The two cured cases previously reported as discharged from the lazaretto under a sort of sanitary ticket-of-leave have not as yet shown any sign of the recurrence of the disease.

In your administration of leprosy generally throughout the Dominion, a leper was removed in January from Winnipeg to the Tracadie lazaretto. The case was a Doukhobor youth who has been in this country for eight years.

In addition to the frontier medical inspection for bubonic plague south of British Columbia, an outbreak of smallpox in epidemic form in the states of Minnesota and North Dakota, caused the appointment under your authority of temporary medical inspectors at Fort Frances and Rainy River in Ontario, and at Sprague, Emerson, Gretna, Morden, Crystal City, Killarney, Boissevain, Deloraine, and Waskada, in Manitoba. These inspectors are still on duty.

Your two new permanent quarantine officers, Dr. Baxter, at Chatham, and Dr. Ruddick, at St. John, have taken up their duties in a manner that leaves nothing to be desired.

The Royal Sanitary Institute of England did me the unexpected honour of electing me as one of their Fellows in December last.

Grosse Isle, Que.—Vessels inspected 378, being 350 at Grosse Isle, and 28 at its sub-station of Rimouski. Persons inspected, 204,080, being 157,359 at Grosse Isle, and 46,721 at Rimouski. Infectious disease was reported or discovered on eighty vessels. The admissions to hospital were 634, with an average of 50 to 150 at a time. The diseases include smallpox, enteric fever, scarlet fever, diphtheria, measles, chicken-pox and whooping cough. The deaths in hospital numbered eleven, 3 from pneumonia complicating measles, 1 from scarlet fever, 2 from diphtheria, 1 from diphtheria complicating scarlet fever, 2 from general debility, 1 from convulsions, and 1 from enteric fever.

The carrying out of the western wharf into deep water so that infected vessels might come to it for the immediate landing of their passengers, and the prompt treatment and disinfection of the vessel, continues to be a matter that is of the gravest importance in the interests of the passengers and of the shipping. The new steamer *Alice* is a valuable addition to the equipment of the station.

The replacing of the old wooden detention sheds for 2nd class and steerage passengers, which sheds date back from 1832 and 1848, by brick buildings with modern appliances is more and more urgently pressing each year.

SESSIONAL PAPER No. 15

Halifax, N.S.—Vessels inspected, 304. Persons inspected, 69,923. Vessels arriving with infectious disease, 20. Admissions to hospital, 123. Deaths, 3. The admissions included smallpox, scarlet fever and measles. The three deaths were from scarlet fever. A new boat is much needed, and a wharf at Halifax for an inspecting base.

St. John, N.B.—Vessels inspected, 190. Persons inspected, 21,785. Vessels arriving with disease, 10. Admissions to hospital, 16. Diseases; scarlet fever, diphtheria, enteric fever, measles, and chicken pox. Deaths in hospital, 2, 1 from diphtheria and 1 from enteric fever. A larger steam sterilizer, and a deep water wharf continue to be the most pressing needs at this station.

Sydney, N.S.—Vessels inspected, 116. Admissions to hospital, 2 cases of diphtheria.

Louisburg, N.S.—Vessels inspected, 23. No quarantinable disease.

Chatham, N.B.—Vessels inspected, 35. No quarantinable disease.

Charlottetown, P.E.I.—No quarantinable disease.

William Head, Victoria, B.C.—Vessels inspected, 275. Persons inspected, 48,044. Of these, 12,573 were Japanese steerage passengers, 7,667 Chinese and 2,613 Hindus. Diseases: Smallpox, chickenpox, measles, beriberi, and dysentery. Six steamers brought smallpox. Admissions to hospital, 34. Seventeen cases of smallpox, three of chickenpox, four of measles, twelve of beriberi, one of dysentery, one of septicæmia. Deaths; one from smallpox, and one beriberi.

Vancouver, B.C.—Vessels inspected, 5. No quarantinable disease.

Leprosy Generally.—In the administration of leprosy generally throughout the Dominion under the Act respecting leprosy, a leper lad was removed from the Winnipeg General Hospital to the Tracadie lazaretto in January last. He is a Doukhobor, and has been eight years in this country. Three other cases were deported to China.

Tracadie, N.B., Lazaretto.—There are at present sixteen inmates. One death occurred during the year, and three new cases have been admitted. The two 'cured' cases discharged but still under observation remain free from any recurrence of the disease.

The Chaulmoogra oil treatment continues to be of service, controlling and mitigating the progress of the disease, even in cases too advanced to hope for any more definite results.

D'Arcy Island, B.C. Lazaretto.—The eight Chinese lepers from this station were transferred to their great satisfaction to the leper mission near Canton. Two substantial cement shacks have been erected to serve as receiving houses for future cases, temporary or permanent.

Public Works Health Act.—Mr. C. A. L. Fisher reports as inspector for the territory from Winnipeg east to the Atlantic coast. He found the medical service more complete than, and the sleeping quarters and boarding of the men to be fully equal to, the very good conditions reported last year.

Dr. T. R. Chamberlain, inspector for the territory west of Winnipeg, reports that there has been a marked improvement in the health of the men employed on railway building, and the sanitary conditions of the camps as compared with last year.

I have the honour to be, sir,

Your obedient servant,

F. MONTIZAMBERT, M.D.,

Director-General of Public Health.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 2.

(G. E. MARTINEAU, M.D.)

GROSSE ISLE, QUEBEC, April 1, 1908.

SIR,—I have the honour to submit this my annual report of the St. Lawrence quarantine service to March 31, 1908.

There were 350 vessels examined at this station during the year, being a decrease of 52 as compared with the number reported last year; this being due to the fact that the last report was covering a period of seventeen months, while this one is covering the usual period of twelve months. For the first time on record there were no sailing vessels examined.

The total number of persons examined was 157,359, being an increase of 42,560 as compared with last year.

They were divided among the different classes of passengers as follows: First cabin, 4,241; second cabin, 28,828; steerage, 90,433; cattlemen, 1,158, crews, 32,574: stowaways, 125.

The number of stowaways was considerably decreased as a result of the new regulations regarding them.

Infectious disease was reported or discovered on each of the passenger vessels sailing to the St. Lawrence from one to four times, and also on the following freighters; SS. *Mohawk*, *Langfond* and *Ontarian*, in all eighty times.

The diseases so reported or discovered were smallpox, scarlet fever, measles, diphtheria, varicella, pertussis, and typhoid fever.

Smallpox.—SS. *Langfond*, Captain Hansen, sailed from Barbados June 18, with 23 persons on board (all crew), and arrived at quarantine at 6.30 a.m. June 28.

On June 20, this vessel called at the port of St. Georges, in the island of Bermuda for medical aid, and the medical officer of this port added to the bill of health the following note:—

‘The above ship called at this port for medical aid, only two of crew are presenting symptoms of smallpox in mild form. Persons (23) vaccinated and ship proceeds on voyage to Montreal.’

These two cases were conveyed to smallpox hospital at station, and all the rest of the crew was landed for quarantine and observation.

Owing to the fact that this vessel, after having been thoroughly disinfected, could not proceed on voyage unless her own crew took charge of her; and taking into consideration the fact that these cases of smallpox developed early on the voyage, and that all precautions possible were taken to prevent the spread of the disease on board, also, that the crew had been vaccinated first at Bermuda on June 20, those who had not been successful having been revaccinated at quarantine; the crew was under the circumstances, permitted by special authority of the department, to proceed with the steamer on July 7, the two that were in the smallpox hospital being well enough were released with the others.

Steerage passengers refusing vaccination arrived here on five different occasions, on the *Parisian*, *Victorian*, *Tunisian*, *Dominion* and *Corsican*, and numbered twenty-one persons. They were landed for the usual period of observation.

Deaths during the voyage were reported on 22 occasions, a total of 31 deaths, from the following causes; Heart failure, 7; meningitis, 2; broncho pneumonia, 3; bronchitis, 2; debility, 1; apoplexy, 1; convulsions, 4; dysentery, 1; delirium tremens, 1; typhoid fever, 1; chronic hydrocephalis, 1; congestion of lungs, 1.

SESSIONAL PAPER No. 15

Births during the voyage were reported on twelve different occasions.

The work at this station, especially at the hospital, has increased considerably and is likely further to increase. I would therefore respectfully recommend that the staff be increased accordingly.

There were 634 admissions at the hospital during the year, and we have always had a number varying from 50 to 150 persons at the same time suffering from different diseases.

The deaths numbered eleven; 3 from pneumonia, complication of measles; 1 from scarlet fever; 1 from diphtheria complicating scarlet fever; 2 from general debility; 1 from convulsions; 2 from diphtheria, and 1 from typhoid fever.

There was also landed for burial at quarantine the body of one child who died from dysentery on SS. *Lake Michigan*.

Quarantine staff.—Dr. E. Belisle continued to be in charge of the Rimouski sub-station.

Improvements and Requirements.—Deep water wharf.—The time has fully come when it is necessary to lengthen the western wharf; seeing that it is dangerous now for our boats to moor there at low tide, on account of there not being enough water; I would therefore respectfully recommend, as I have always done on every possible occasion, to have it prolonged into deep water, so as to enable the infected vessels to moor and land their passengers and effects, which would prevent many delays to the shipping and passengers.

The new quarantine steamer *Alice* was completed and delivered to the department last season.

The following improvements were carried out during last season :—

The eastern wharf has been prolonged. The administration building was completed and a new guard's house and boundary fence erected. New quarters were provided for the carter. The building where is to be installed the steam laundrying disinfecting apparatus has been erected, and I have reason to hope that it will be completed next season.

The necessary apparatus and instruments for the laboratory have been received, but the building where they are to be installed has not been commenced yet.

A new building for the accommodation of the second cabin passengers is required, also four new buildings, one for the hospital steward, one for the captain and chief engineer, one for a school house and the other one to be used as a store for the provisions, bedding, &c., necessary for the hospital.

There are still some other repairs and works necessary, the list of which is in the hands of the department.

All of which is respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

G. E. MARTINEAU, M.D.,

Medical Superintendent of the St. Lawrence Quarantine Service.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 3.

(N. E. MacKAY, M.D., M.R.C.S.)

HALIFAX, N.S., March 31, 1908.

SIR,—I have the honour to submit my annual report of the year ended 31st March, 1908.

The number of vessels inspected during the year was 304, and the number of immigrants was as follows: First-class, 2,313; second-class, 11,677; third-class, 35,293; cattlemen, 130, and crew, 20,510. Total 69,923.

During the year just closed the work of the station was uneventful. Smallpox was found on one vessel—the American schooner *Fame*, from Boston. She arrived on the 7th of December, 1907, with a crew of 23 men. Only one man was sick with the disease. The well persons were vaccinated and detained in quarantine of observation the regular time—18 days. None developed the disease. The vessel and crew were disinfected in the usual way.

Measles were found on the following ships: SS. *Dominion*, from Liverpool, April 2; *Kensington*, Liverpool, April 7; *Empress of Ireland*, from Liverpool, April 12; *Southampton*, from Liverpool, April 14; *Armenia*, from Hamburg, April 29; *Ionian*, from Liverpool, April 29; *Siberian*, from Liverpool, June 26; *Empress of Ireland*, from Liverpool, November 21; *Dominion*, from Liverpool, December 1; *Corsican*, from Liverpool, December 14, *Empress of Ireland*, from Liverpool, December 19; *Pomeranian*, from Havre, January 3, and on *Empress of Ireland*, from Liverpool, March 27.

Scarlet fever was found on *Pomeranian*, from Havre, January 3, 1908. Diphtheria on *Empress of Ireland*, from Liverpool, November 21, 1907, and on *Corsican*, from Liverpool, December 14. Chicken-pox on *Canada*, from Liverpool, April 19 and December 14.

Non-quarantinable diseases occurred on the following ships: *Kensington*, April 27, phthisis; *Pomeranian*, Havre, April 11, pneumonia; *Numidian*, April 17, pleurisy; *Orinoco*, April 18, la grippe; *Victorian*, April 19, pneumonia; *Mongolian*, April 23, pleurisy; *Laurentian*, April 25, pleurisy; *Ottawa*, April 27, pneumonia; *Dahome*, April 30, pleurisy; *Hispania*, June 1, pneumonia; *City of Bombay*, June 6, la grippe; *Amethyst*, June 6, phthisis; *Carthaginian*, July 4, dysentery, and September 26, erysipelas.

Deaths occurred on following steamers: *Dominion*, April 2, rheumatism; *Kensington*, April 7, phthisis; *Pomeranian*, April 11, pneumonia; *City of Bombay*, June 6, pneumonia; *Empress of Ireland*, November 21, cerebral hæmorrhage; *Pomeranian*, January 3, scarlet fever; *Empress of Ireland*, February 27, convulsions, and *Sardinian* March 19, convulsions.

Outside our regular work, we had three coasting vessels at the station for smallpox, viz.: Government steamers *Aberdeen* and *Lady Laurier* and the *Scotia*. The *Lady Laurier* is in quarantine at the time of writing.

Three deaths occurred at the station hospital from scarlet fever. They were immigrants ex SS. *Pomeranian*, from Havre, and were all under three years.

There were 123 persons admitted to the hospital during the year just closed.

We need a bigger staff than we have at present. We need a resident engineer and a resident carpenter. They would find plenty of work to do in keeping the plant and buildings in thorough repair.

Since the new hospital was finished the staff has been increased by the appointment of an orderly and a matron and nurse. Miss F. Himelman, the matron and

SESSIONAL PAPER No. 15

nurse, is well qualified for the position to which she has been appointed. The work has been greatly facilitated by the opening of the new hospital and the appointment of a nurse and orderly. We can make the sick quite comfortable,

Mr. Himelman, the orderly, who has been laid up for two months with an attack of serious illness, is, I am pleased to report, improving fast, and will, I trust, be able to resume duty soon.

We need a new boat badly. It is to be hoped our quarantine boat is nearing completion. We should have her early in June. If the SS. *Argus* is to do much more work, there must be an outlay of from \$800 to \$900 put on her in the spring.

An inspecting station ashore is urgently required, and there is no better place for a station than the lumber yard. To make Lawlor's island an inspecting station is impracticable. It is hardly suitable for even a detention station and hospital. In the year 1907 eastern passage was frozen over from February till April 1, and therefore impossible. The ice was so solid that no steamer in the harbour could get through it. The SS. *Robling*, a powerful tug-boat, failed to break the ice up, as did also the government steamer *Aberdeen*. If an immigrant ship had come into port in the meantime with smallpox on board, it would have been difficult to handle her. I mention these things to show that to make Lawlor's Island an inspecting station is out of the question.

I have the honour to be, sir,

Your obedient servant,

N. E. MACKAY, M.D.,

Quarantine Officer.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 4.

(R. C. RUDDICK, M.D.)

ST. JOHN, N.B., April 3, 1908.

SIR,—I have the honour to submit my report for the year ended March 31, 1908.

The number of vessels inspected, 190. The number of persons inspected, 21,785, classified as follows:—

Cabin, 1,032; intermediate, 1,484; steerage, 10,713; cattlemen, 282; crew, 8,274.

No vessels arrived with the graver quarantinable diseases.

Ten vessels arrived with the minor quarantinable diseases.

The following vessels arrived with the minor quarantinable diseases:—

SS. *Lake Champlain*, from Liverpool, April 9, 1907, measles (2).

SS. *Mount Temple*, from Antwerp, April 17, 1907, scarlatina (2).

SS. *Empress of Ireland*, from Liverpool, November 22, 1907, measles (3); diphtheria (1).

SS. *Victorian*, from Liverpool, December 1, 1907, measles (1).

SS. *Cassandra*, from Glasgow, December 13, 1907, measles (2)

SS. *Empress of Ireland*, from Liverpool, December 20, 1907, measles (1).

SS. *Oruro*, from Bermuda, January 18, 1908, typhoid (1).

SS. *Empress of Ireland*, from Liverpool, February 1, 1908, chicken-pox (1).

SS. *Montezuma*, from Antwerp, March 4, 1908, measles (1).

SS. *Virginian*, from Liverpool, March 8, 1908, chicken-pox (1).

8-9 EDWARD VII., A. 1909

The number of patients treated at our hospital during the year, 16.

The number of deaths occurring in hospital, 2; one from typhoid, and one from diphtheria.

There were 10 deaths reported on the following ships on their voyage to this port:—

SS. *Mount Temple*, April, 1907, scarlet fever (2).

SS. *Lake Champlain*, April, 1907, suicide (1).

SS. *Acamo*, August, 1907, phthisis pulmonalis (1).

SS. *Empress of Ireland*, December 17, 1907, cerebral hæmorrhage (1).

SS. *Montrose*, January, 1908, convulsions (1).

SS. *Dahome*, January 1908, suicide, (1).

SS. *Salacia*, January, 1908, heart failure (1).

SS. *Virginian*, March, 1908, delirium tremens (1).

SS. *Salacia*, March, 1908, accidentally killed (1).

A deep water wharf is very much needed at our station, and a boat sufficiently large to perform an all-year-round service; enlargement of our sterilizing plant is required, also fencing of the new quarantine grounds is very necessary.

I am, sir,

Your obedient servant,

R. C. RUDDICK, M.D.,

Quarantine Officer.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 5.

(HORACE RINDRESS, M.D.)

NORTH SYDNEY, C.B., March 31, 1908.

SIR,—I have the honour to submit my report for the year ending March 31, 1908.

The total number of vessels inspected during the above period was 116. Of these 88 were steamships and 28 were sailing vessels. Two cases of diphtheria were found on the SS. *Fritzoe*, on May 21. They were removed and cared for at the quarantine station. The ship was disinfected and allowed to proceed at once.

With the above exception no quarantinable disease was brought to this port during the past year. There have been some needed repairs and improvements made at the Point Edward Station.

I have the honour to be, sir,

Your obedient servant,

HORACE RINDRESS, M.D.

The Honourable

The Minister of Agriculture,
Ottawa.

SESSIONAL PAPER No. 15

No. 6.

(F. O'NEILL, M.D.)

LOUISBURG, C.B., March 31, 1908.

SIR,—I have the honour to submit my report for the year ending March 31, 1908.

The total number of vessels examined for the year was 23 with 699 men. No quarantinable disease of any kind was brought to this port during the above period.

I have the honour to be, sir,

Your obedient servant,

FREEMAN O'NEIL,

Quarantine Officer.

To the Honourable

The Minister of Agriculture,
Ottawa.

No. 7.

(PETER CONROY, M.D.)

CHARLOTTETOWN, P.E.I., March 31, 1908.

SIR,—I have the honour to submit my report of the transactions at this station, for the year ending March 31, 1908.

No quarantinable disease was brought to this port during the year just ended. In the month of October last, by permission of the minister, the hospital was loaned to the local authorities here, for the accommodation of some cases of smallpox, an epidemic of that disease having developed in different parts of this province. The building has since been relinquished, after being thoroughly cleansed and disinfected.

A long-felt want has been supplied to the hospital, by the placing of a pump and tank in the building, for the furnishing of a sufficient supply of fresh water from the well.

The general state of the hospital quarters leaves at present little to be desired. There were nine arrivals of vessels from points beyond the line of exemption.

All of which is respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

PETER CONROY, M.D.,

Inspecting Physician.

The Honourable..

The Minister of Agriculture,
Ottawa.

8-9 EDWARD VII., A. 1909

No. 8.

(J. MCG. BAXTER, M.D.)

CHATHAM, N.B., March 31, 1908.

SIR,—I have the honour to submit the following report from the Port of Miramichi, for the period during which I have had the honour of serving in the quarantine station here, viz.: the last thirteen months, from March 1, 1907, to date.

The number of vessels examined has been, beyond precedent, small, on account of so many of them having touched at some other quarantine port before arrival here or coming from ports in the United States that are at present by your orders exempt from examination here.

None of those, however, which have been examined during that time, have had cases on board which required detention, but have all been remarkably healthy; nor have there been any of these crews that contained in their number any Chinese or other persons that would be likely to cause complications.

The number of vessels examined during this time was 35.

These consisted of the following, viz.: 15 steamships, 17 barques, 2 barquentines, 1 three-masted schooner.

The total number of men examined during this time was 615.

There have been considerable changes made and repairs effected at the station here, but being interrupted by the cold weather last fall, all of these could not be completed, but will be resumed and finished in the spring. These will make the station much more efficient, and should it ever be called upon suddenly to be used for any contagious disease or otherwise, will, I hope, be found equal to the emergency.

I have the honour to be, sir,

Your obedient servant,

J. MCG. BAXTER, M.D.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 9.

(A. T. WATT, M.D.)

VICTORIA, B.C., April 1, 1908.

SIR,—I have the honour to submit the following report regarding transactions at William Head Quarantine Station for the period of twelve months from April 1, 1907, to March 31, 1908.

During that period there were 275 vessels inspected, with a total personnel of 48,044; of this number 12,573 were Japanese steerage passengers, 7,677 Chinese and 2,613 Hindu steerage passengers. The Chinese members of crew numbered 6,825 and the Japanese crew 2,941. All these Asiatics underwent disinfection at ports of

SESSIONAL PAPER No. 15

departure or where this had not been the case they were bathed and had their effects disinfected at this station. The passengers coming by regular lines are always so treated before embarkation, but a number of Japanese came by chartered steamers from Honolulu, and these had not been disinfected before leaving.

Bubonic plague is still existent in many ports on the Pacific ocean and in the past year there has been a recrudescence of the disease in San Francisco and an outbreak has occurred in Seattle. Smallpox has been very prevalent in Japan and to a less extent in China, and several steamers have arrived at this station with the disease on board. Cholera was quite severe in Shanghai for a few weeks last fall, and one vessel arrived here which reported two deaths on board after leaving Shanghai, on which account the vessel had been disinfected by the Japanese authorities. I also learned of cholera having broken out amongst a number of Hindu passengers before they transhipped to the steamer which brought them here. These Hindus had been through quarantine on this account at Singapore.

The diseases found on arrival and for which hospital treatment was given at this station, were smallpox, chickenpox, measles, beriberi and dysentery, also one case of fever with enlargement of glands of septic origin.

Six steamers were quarantined on account of smallpox during the twelve months. The SS. *Empress of Japan* was the first. This steamer after being in Vancouver for seventeen days was on April 17, 1907, discovered to have some of crew sick with smallpox just as she was about to sail on outward voyage. The steamer was then under jurisdiction of the Vancouver Board of Health, but at the request of the company the vessel was dealt with at this station and put in condition for making voyage. The facts as they came out afterwards were that one of the firemen was taken ill two days after arrival of vessel in Vancouver. He was seen by the ship's doctor and given some medicine, and next day was reported all right by the 'No. 1,' but in reality the Chinese had recognized by that time that he had smallpox and had hidden him away, and afterwards at every muster of the firemen one of the stewards was substituted for the sick man. An engineer and fireman were taken down with smallpox in Vancouver, and on reaching here two more firemen were found to be developing the disease. By taking such precautions that substitution was impossible the original case was brought to light and the outbreak was explained. One more fireman developed the disease on the voyage to Japan, but as the ship's surgeon was able to isolate him immediately there was nothing further. Whilst vaccinating the passengers who had got on board it was found that one of the second cabin passengers had mild smallpox. The case had no connection with the outbreak on board. The man had acquired the infection whilst travelling through the United States. The expenses for fumigating vessel and the hospital charges were met by the company in the case of this steamer, as the disease occurred after passing quarantine and whilst vessel was in port. The voyage from Japan is made by the *Empress* steamers in from ten to eleven days, so that the voyage is less than the incubation period for smallpox, so with these steamers there is always the possibility of smallpox not being manifest before quarantine inspection is made.

The British SS. *Oanfa* arrived from Liverpool April 26, 1907, with smallpox on board. There had been an outbreak early in the voyage and the steamer underwent quarantine at Singapore. But a partly new crew was shipped at Hong-Kong, and three of these men developed smallpox after leaving Japan. One case was mild and was not believed to be smallpox and was consequently not isolated. The passengers were landed for detention, and it was the intention to have the steamer go on to the United States quarantine for fumigation, &c.; afterwards however the request was made that the work be done here, the company agreeing to make up time lost by our staff and replace disinfectants used. The prospect of being fumigated caused fourteen Japanese stowaways to appear. Three of these were women who were put inside some of the baggage and were lowered with a sling load of other baggage. They were not found until the boxes were ordered to be unpacked so that things could be sorted for disinfection.

8-9 EDWARD VII., A. 1909

On January 21, 1908, the British SS. *Bellerophon* arrived with five sailors suffering from smallpox, all pronounced cases. The disease had been contracted while vessel lay in Kobe, where a great epidemic of smallpox was raging. All shore leave had been stopped, but precautions had not been taken to prevent people coming on board, and a number of pedlars did so, and thus the infection was carried. From one of these people three of the crew bought boots. These men were all taken ill within twelve days, also two others who had evidently been at the same time exposed. The type of disease was severe and one man died a week after landing here. The steamer was disinfected in the usual way, and as she also proceeded to Puget Sound without first calling at Victoria, it was required that the time lost and materials used be made good.

On February 6, the Japanese SS. *Kaga Maru* arrived and a Japanese steerage passenger from Kobe was found to have mild smallpox. This case was of several days' duration and the man had remained unnoticed by the ship's surgeon. The steamer was disinfected and the steerage passengers detained, also the portion of the crew not protected by vaccination.

On February 25, the British SS. *Monteagle* reached here and smallpox was found on board. This steamer had undergone fumigation at Yokohama sixteen days previously on account of having landed a fireman with smallpox. On arrival here all were reported well. On examination, however, a fireman was found to have slight smallpox rash but well out. The man had been slightly ailing and had been put in hospital and then allowed to go back to work. The steerage passengers, of whom 196 were Hindus, were landed, also such of crew as were considered protected by vaccination. The saloon passengers had all been vaccinated in Japan and were considered protected on arrival here, and so were allowed to proceed.

On March 4, the Japanese SS. *Shinano Maru* arrived and an unrecognized case of smallpox was found in steerage. The steerage passengers for Victoria, 60 in number, were landed at this station and the steamer proceeded to the United States quarantine at Diamond Point for fumigation.

Owing to these four steamers following one another so closely there were 'suspects' at the station continuously for sixty days, and our staff had arduous work without any interval for that time.

Owing to the prevalence of smallpox in the neighbouring states of Montana, Idaho and Washington, it was necessary to institute a medical inspection of persons crossing the boundary line. This inspection was continued from April 3, to July 15, 1907. In the case of the steamers the various companies engaged the services of medical men to make inspection of passengers before coming on board. This examination has been done in an acceptable manner and the certificate given has relieved vessels of inspection at Victoria or Vancouver.

Last June acting under instructions to investigate conditions at various points where smallpox had occurred, I went to Spokane and other places and was able to report that the necessity of longer continuing the quarantine did not exist, as several railway construction camps where the disease had started had been broken up. While away at this time I had the opportunity of visiting the United States quarantine station for the Columbia river situated across from Astoria.

In San Francisco, where bubonic plague first appeared seven years ago, there was a recrudescence of the disease last summer, and since that time there have been 159 cases and 77 deaths from this disease in that city and some neighbouring towns. Since the first of January, however, the disease has subsided and since that time there have been but three cases. Vessels from San Francisco have been given careful inspection and precautions are taken to prevent rats coming on shore. Vessels before leaving San Francisco are given fumigation with sulphur dioxide for the purpose of destroying rats, and are furnished with a certificate that this has been done. In the case of the regular liners the fumigation is made once a month. The rats in San Francisco, of which many thousands have been examined, are found infected with plague in the proportion of 15 out of 1,000. Last October bubonic plague was found to be existent in Seattle,

SESSIONAL PAPER No. 15

and has been the cause of very great alarm. Fortunately the cases have been few in number, and but few rats have been found infected, and none of these since the first of the year. A medical inspection of passengers was instituted at railway points on the boundary, and passengers by boat were examined before going on board. This inspection remained in force from October 22, 1907, to March 31, 1908, when conditions were so far satisfactory that it was discontinued. Precautions were also taken to prevent rats coming on board vessels at Seattle and against any leaving vessels in British Columbia ports. Discs have been put on mooring lines and vessels breasted out from wharf so that rats could not jump on or off, and the gangway was not allowed out except when in actual use. It is arranged that these precautions will all be continued for some months yet. The special plague prevention work is to be continued in Seattle for two years at least and laboratory examinations are to be made of all rats brought in so that conditions will be known and if further precautions are necessary owing to finding of infected rats, they may then be taken. On the outbreak of plague being reported in Seattle, Dr. F. Montizambert, Director General of Public Health, personally investigated conditions, and after spending some time in Seattle, to which place I accompanied him, we went to the various points on the frontier where medical inspection had been instituted.

On May 1, 1907, the new quarantine steamer *Madge* was taken over from the builders, the British Columbia Marine Railway Co., Ltd. This steamer has proved most satisfactory and is most staunch and seaworthy. Last July the ss. *Madge* took to Prince Rupert, Dr. Montizambert, Director General of Public Health, and by your kind direction, myself also for the purpose of examining possible sites for the new quarantine station to be established there. Other ports were also visited and information gained which will be most useful in dealing with quarantine matters which may affect these various places.

The improvements made at the station this year have not been many, but are important. Foremost was the coming of the new steamer *Madge* already referred to. Considerable repairs were made to wharfs and some extensions and improvements made to small wharf so as to give better accommodation to ss. *Madge*. A new steam sterilizing chamber is now under construction, and although it may not be in place for a few weeks, it is to be regarded as an important improvement undertaken this year.

The lazaretto at D'Arcy island, which came under my charge in the previous year, has this year seen important changes. On May 8, 1907, I was enabled to have the eight lepers who were on the island returned to their own country and placed under care of the Presbyterian Mission at Canton. This disposition of these people was only attained after various difficulties had been overcome, but it has been a very satisfactory solution of the problem of caring for these unfortunates, and according to reports received they were comfortably settled at the mission. I was able through meeting with Dr. Andrew Beattie, a Canadian in charge of the mission to the lepers at Canton, to ascertain from him what could be done with regard to caring for the lepers in their own country. I found that acceptable arrangements could be made at small cost and that everything would be right, once they reached Canton. The difficulty was to get them there. Some of the cases were well advanced, and were not passengers that steamship people wished to have anything to do with. However, a steamer which was going to Hong-Kong direct was found ready to take the men, and special quarters were fitted for them, and they made the voyage without mischance. Our thanks are due to Dr. G. D. R. Black, of Hong-Kong, for having looked to the lepers on arrival there and for having seen to their transportation to Canton and settlement with the mission.

Since the first lot went I have returned three other lepers to China without much difficulty as in their cases, the disease was not objectionable. I also have knowledge of two lepers, one a Chinaman and the other a Japanese who returned home on their own initiative. These people are always ready enough to go back to their own country so that there is nothing in the way of so handling these cases, except the difficulty of booking their passage and arranging for separate quarters for them. As opportunities

8-9 EDWARD VII., A. 1909

are not frequent, however, it has been considered necessary to have a receiving station at D'Arcy island. Two small buildings have just been erected there for the temporary accommodation of any lepers who may be found. A cottage for the guardian at the lazaretto has also been built. The old frame shacks which had been occupied by the lepers since the colony was established in 1892, were burned after they were vacated.

I have the honour to be, sir,

Your obedient servant,

A. T. WATT, M.D.,

Supt. B.C. Quarantines.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 10.

(R. L. FRASER, M.D.)

VICTORIA, B.C., March 31, 1908.

SIR,—I have the honour to submit my report for the year just ended.

On account of the prevalence of smallpox in Seattle, inspection of foreign coasting vessels was ordered from April 3 to July 15. Again on the appearance of bubonic plague at the same place inspection was ordered from October 22 to March 31.

By arrangement of the Superintendent of Quarantines for British Columbia, the inspection was done for a part of the time at the ports of embarkation, my duties consisting in seeing that properly signed bills of health were produced and that due precautions were taken against the landing of rats from any boat.

During the year I examined eighty-eight (88) vessels here, and I am pleased to say found no case of contagious or quarantinable disease on any of them.

I have the honour to be, sir,

Your obedient servant,

R. L. FRASER, M.D.,

Quarantine Officer.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 11.

(L. N. MACKECHNIE, M.D.)

VANCOUVER, B.C., March 31, 1908.

SIR,—I have the honour to submit this my report for the year ending March 31, 1908.

Fifty-one vessels have been inspected at this port. No case of infectious or contagious disease has been found.

SESSIONAL PAPER No. 15

Measures continue to be directed against rats coming on shore.

Medical inspection at Seattle of passengers for Vancouver is discontinued at this date.

I have the honour to be, sir,

Your obedient servant,

L. N. MACKECHNIE, M.D.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 12.

(A. C. SMITH, M.D., M.A., C.M.)

TRACADIE, N.B., March 31, 1908.

SIR,—I have the honour to submit my annual report as physician, &c., to the Tracadie lazaretto.

There are at present sixteen inmates of the institution—nine males and seven females. There was one death during the year, and three new patients were admitted. Of the inmates, eleven are of French, two of English, two of Icelandic, and one of Russian origin. The ages of the patients vary from eight to seventy-six years.

Classifying the patients, we have seven in the first stage of leprosy, five in the second, and four in the third, the final stage. Three suspected cases remain outside. Over these I keep a constant supervision.

During the winter months there has been much intercurrent illness among the inmates. No words of mine can do justice to the unremitting care bestowed night and day upon the sufferers by the religious ladies who oversee the wards of the hospital.

Chaulmoogra oil in combination is being used by our patients, and with benefit to all. In my last report, I alluded to the case of a patient, a woman, in whom the disease seemed arrested by the use of the oil. This woman has since been discharged as cured, and remains outwardly free from the malady. I have again to report my conviction that Chaulmoogra oil in combination will cure leprosy, if taken in the early stages of the disease; and that it will mitigate the suffering and prolong life even in advanced cases. I am carefully watching results of treatment by other drugs, as reported from foreign leper hospitals.

In no country in the world are lepers so tenderly treated as they are here by the Canadian Government. Recent improvements in connection with the lazaretto, made by direction of the Director General of Public Health, are of inestimable value to the institution, and they add materially to the public safety.

I have the honour to be, sir,

Your obedient servant,

A. C. SMITH, M.D.

To the Honourable

The Minister of Agriculture,
Ottawa.

No. 13.

(CHAS. A. L. FISHER, J.P.)

MONTREAL, March 31, 1908.

SIR,—I have the honour to submit this my report for the twelve months ended March 31, 1908, as Public Works (Health) Inspector, for the territory from Winnipeg east to the Atlantic ocean.

During that period I have personally visited and inspected all such works covered by the Public Works (Health) Act, 1899, as have in any way been brought to my notice.

The term has again been an exceptional one, in the almost non-appearance of contagious and infectious diseases among the men employed on the various public works of the Dominion, coming under my inspection, there being no outbreaks of smallpox, and only two cases of diphtheria, but in the neighbourhood of Fort William and Kenora, and some of the works east, there have been a good many cases of typhoid fever in the camp hospitals, mostly developing on new arrivals on the work.

I am sorry to have to report that at two of the public works, in my territory, the subcontractors had to be prosecuted, and were fined for non-fulfilment of the regulations in regard to the sanitary condition of their camps.

I am pleased to be able to report again, that on my several tours of inspection of the public works of the Dominion in my district for the past year, I found the medical service given to be more numerous and complete, and the sleeping quarters and boarding of the men to be fully equal to the very good conditions in that way reported last year.

The following is a detailed report of the works I have personally visited and inspected during the past twelve months, as coming, more or less, under the regulations of the Public Works (Health) Act, 1899.

RAILWAYS.

The number of public works coming under the regulations of the Act, in the territory east of Winnipeg, have been comprised exclusively of railway construction, the increased building of the National Transcontinental Railway from Winnipeg, Man., to Moncton., N.B., will add greatly to the railway mileage of the Dominion and will tend to open out a fine tract of agricultural land for settlement when completed.

NATIONAL TRANSCONTINENTAL RAILWAY.

This road is being built by the Dominion government, and at present eight sections have been given out on contract, between Winnipeg and Moncton, N.B., and are now under construction.

I am pleased to report that on my visit to the works on said sections I found excellent hospital accommodation provided, the men comfortably housed and well fed, the camps in good sanitary condition, and a duly qualified physician as district medical supervisor over each section of camps, which could be conveniently covered by him within the requirements of the regulations.

There had been no outbreak of contagious diseases, and the health of the men had been excellent, with the exception of some cases of typhoid fever.

SESSIONAL PAPER No. 15

I give below the extent and location of camps, with other particulars of the works carried on by the various subcontractors.

Section from Winnipeg east to junction of Grand Trunk Pacific branch, from Fort William, 245 miles. This is under contract to Mr. J. D. McArthur, of Winnipeg, about 4,050 men were employed thereon, located in seventy-nine camps, spreading over the route.

J. K. McLennan, M.D., of Winnipeg, is the chief medical officer on behalf of the contractor, with J. R. Gunn as medical superintendent at Kenora, Ont., which is central to the work, and he has ten district medical officers, resident at various points along the route, and excellent hospital accommodation is provided where necessary.

Whitemouth, Man., Camps.—W. Wardrop, sub-contractor. These camps are seven and fourteen miles from Whitemouth, a station on the Canadian Pacific Railway, and can be reached by team from the latter place. One hundred and twenty men were employed on grading thereat, who housed and boarded themselves in shacks and tents. There had been no contagious or infectious diseases, accidents or deaths, and their general health, and the water supply were good. The sanitary conditions of the camps, except for a very short period, were good.

The Winnipeg hospitals were used when necessary. Benjamin Lang and afterwards D. A. Volume were the resident district medical officers of the work.

Rennie, Man., Camps.—Rock work of one and one-half miles. Forty men were employed thereat, housed and boarded in log huts by the contractor, J. D. McArthur & Co., who was doing the work.

There had been no contagious or infectious diseases, deaths or accidents. The general health of the men, and the sanitary condition of the camps were good. The water supply was from wells and latrines were provided. A tent was supplied for temporary hospital use, but the Winnipeg hospital was used when necessary. J. B. Snyder, M.D., C.M., was the resident district medical officer on this work, he being succeeded last fall by D. A. McKay.

Rennie, Man., Camps.—J. V. Welsh, sub-contractor. Rock work of five miles. Fifty men were employed thereat, housed and boarded in lumber camps by the sub-contractor.

There had been no contagious or infectious diseases, accidents or deaths, and the health of the men and the sanitary conditions of the camps were good. The water supply was from wells, and latrines were provided.

A tent was provided for temporary hospital use, but the Winnipeg hospital was used when necessary.

J. B. Snyder, M.D., C.M., was the district medical officer of this work for some months, he being succeeded by D. A. McKay last fall.

Rennie, Man., Camps.—J. D. McArthur & Co., contractors. Rock work, four and one-half miles. Fifty men were employed thereat, housed and boarded in log camps by the contractors. There had been no accidents or deaths, and the general health of the men had been good, and the sanitary conditions of the camps fair. The water was from wells, and latrines were provided. The Winnipeg hospital was used when necessary.

J. B. Snyder, M.D., C.M., was the district medical officer of this work until last fall and was then succeeded by D. A. McKay, M.D.

Dagiro, Man., Camps.—McPherson, McNaughton & Blake, sub-contractors. Rock work, four and one-half miles. These camps are north from Dagiro, a station of the Canadian Pacific Railway, and twelve miles east from the Rennie camps. One hundred men were employed thereon, and housed and boarded in lumber and log camps by the sub-contractors.

There had been no contagious or infectious diseases, three accidents and two deaths, and the general health of the men, and the sanitary conditions of the camps

8-9 EDWARD VII., A. 1909

were good. The water supply was fairly good, being obtained from wells, and latrines were provided.

A tent was in use for temporary hospital purposes, but the Kenora hospital was used in case of necessity.

J. B. Snyder, M.D., C.M., was the district officer in charge of these camps, and was succeeded by D. A. McKay, M.D.

Dagiro, Man., Camps.—Anderson & Johnson, sub-contractors. Rock work, six miles. These camps are adjacent to, but east from the ones last mentioned.

One hundred men were employed thereat, and housed and boarded in lumber camps by the sub-contractors. There had been seven cases of typhoid fever, two accidents and one death, and the general health of the men, and the sanitary conditions of the camps good. The water supply was fairly good, being obtained from wells, and latrines were provided. A tent was supplied for temporary hospital purposes, but the Kenora hospital was used in case of necessity.

J. B. Snyder, M.D., C.M., was the district medical officer in charge of these camps, and was succeeded by D. A. McKay, M.D.

Kalmar, Ont., Camps.—Anderson & Johnson, sub-contractors. Rock work and grading. This camp can be reached from Dagiro, Man., or Kalmar, Ont., being about midway north of, and between the two stations named. Fifty men were employed thereat, housed and boarded in log camps by the sub-contractors. There had been no contagious or infectious diseases, one accident, one death, and the general health of the men had been good.

H. H. Christie, M.D., of Kalmar, Ont., was the district medical officer of this camp, but was replaced early in the season by P. McRitchie, who resides at, and has a good hospital at Lake Malachi, where patients from his camps are taken.

Kalmar, Ont., Camps.—Oleson & Larson, sub-contractors. Rock work and grading. These camps are fifteen miles north of Kalmar, a station on the Canadian Pacific Railway, and can be reached by team to Malachi lake, and then by boat.

Three hundred men were employed thereat, and distributed over five camps, No. 1 being Lake Malachi, No. 2 west two miles, No. 3 west four miles, No. 4 west six miles, and No. 5 at Rice lake. The men in each camp were housed and boarded by the sub-contractors, in good board and log buildings. There had been eight cases of typhoid fever, and one of diphtheria, but there were no other developments of contagious or infectious diseases, and there were no deaths and one accident. The general health of the men, and the sanitary conditions of the camps were good. A permanent hospital was provided at camp No. 1, but the general hospital at Kenora, Ont., would be used when advisable.

The water supply was fairly good, and taken from wells and lake. Latrines were provided at each camp.

H. H. Christie, M.D., was the resident district medical officer, but was replaced last spring by P. McRitchie.

Kalmar, Ont., Camps.—Guy Campbell, sub-contractor. Rock work principally and extending five miles. There were two main camps, known as No. 1 and No. 3, No. 1 being at Otter lake, and No. 3 two miles east. There were also two smaller camps known as No. 2 and No. 4. Two hundred and twenty men were employed thereat, housed and boarded by the sub-contractor, in comfortable log and frame buildings. There were no contagious or infectious diseases, or deaths among the men, and only a few minor accidents. The general health of the men was good, and the condition of the camps throughout excellent.

Water from wells was used for drinking purposes, and lake water for general use. Latrines were provided at all camps.

The permanent hospital at camp No. 1, Lake Malachi, was used, but the general hospital at Kenora, Ont., would be used in case of necessity. H. H. Christie, M.D.,

SESSIONAL PAPER No. 15

was the district medical officer of this work also, and was replaced by P. McRitchie, M.D.

A sudden death occurred at camp No. 1 on this work, in the person of Mrs. Guy Campbell, wife of the sub-contractor, and whom I had seen the previous day in apparently perfect health.

Kalmar, Ont., Camps.—Gordon Bros., sub-contractors. Rock work principally, extending two miles. One hundred men were employed thereat, located at two camps, one mile apart, and housed and boarded by the sub-contractors, in good log buildings. There had been no contagious diseases, accidents or deaths.

The general health of the men, and sanitary conditions of the camps were good.

The water supply was from lake and springs, and was good. Latrines were provided at each camp. At camp No. 1, Lake Malachi, hospital quarters were provided, but the general hospital at Kenora, Ont., would be used if thought beneficial.

H. H. Christie, M.D., was the district medical officer of these camps, and was replaced by P. McRitchie, M.D.

Winnipeg River Camps.—Chambers Bros., McQuigge & McCaffrey, sub-contractors. Ten miles of grading and rock work.

These camps are located fifteen miles north from Kenora, Ont., a station on the Canadian Pacific Railway, and can be reached from there by boat up the Winnipeg river, to Winnipeg river crossing, thence overland one or two miles. Three hundred and twenty men were employed thereat, located in five camps, situated west of the Winnipeg river, and housed and boarded by the sub-contractors in comfortable board and log buildings.

There had been no cases of contagious or infectious diseases, with the exception of one of typhoid. There had been minor accidents, but no deaths.

The general health of the men, and the sanitary conditions of the camps were good.

The water supply was good, and was from lake and springs. Two latrines were provided for each camp. Temporary hospital quarters were provided, with a permanent hospital east of the McFarland river, and the general hospitals at Kenora, were used when necessary.

H. A. Abraham, M.D., was the resident district medical officer of these camps in the early part of the season, and was then replaced by R. Wightman, M.D., and he by L. C. Panton, M.D.

Winnipeg River Camps.—Dutton & McArthur, sub-contractors. Five and one-half miles of grading and rock work. There were three camps situated east of the McFarland river, and three hundred men were employed on the work, who were housed and boarded by the sub-contractors in comfortable board and log buildings.

There had been five cases of typhoid fever, but no other cases of contagious or infectious disease. There were three accidents, and two deaths. The general health of the men, and sanitary conditions of the camps had been fair.

The water supply was good, and two latrines were supplied for each camp. There was a permanent hospital conveniently located for the various surrounding camps, with an hospital orderly and graduated female nurse employed thereat, under charge of H. A. Abraham, M.D., who was the district medical officer of this work, and was assisted by L. C. Panton, M.D., who succeeded him in charge of the hospital.

Winnipeg River Camps.—Courtney & McRae, sub-contractors. Five miles rock and earth work. There were two camps east of Basket lake, and one hundred and twenty men were employed on the work, who were housed and boarded by the sub-contractors in good log buildings. There had been three cases of contagious diseases, two accidents, no deaths.

L. C. Panton, M.D., was the district medical officer in charge of the men, and was succeeded by R. Wightman, M.D.

8-9 EDWARD VII., A. 1909

Winnipeg River Camps.—Baulf & Stinson, sub-contractors. Four miles rock and earth work. There were two camps situated on the side of a lake, and one hundred men were employed on the work, who were housed and boarded by the sub-contractors in good log buildings. There had been no contagious diseases or accidents, and no deaths. The general health of the men has been good. The permanent hospital at Winnipeg River was used. L. C. Panton was the district medical officer of these camps and was succeeded by R. Wightman, M.D.

Winnipeg River Camps.—McCaffrey & Hicks, sub-contractors. Two miles of rock grading. One camp situated fifteen miles east of Winnipeg River crossing.

About one hundred men were employed on the work, and were housed and boarded by the sub-contractors in log buildings. There had been one case of typhoid, one accident, and no deaths. The general health of the men had been good, and the permanent hospital at Winnipeg River crossing was used when necessary.

Robert Wightman, M.D., was the district medical officer of this camp.

Hawk Camps.—A. J. McDougald, sub-contractor. Grading and filling.

There are two camps, No. 1 located at Wild lake, and No. 2 at Spectacle lake. These camps are some miles north from Hawk, a station on the Canadian Pacific Railway, and can be reached by team and canoe from there, or from Margach, another station on the Canadian Pacific Railway, direct by canoe, with several portages to make.

One hundred and thirty men were employed thereat, housed in log buildings, and boarded by the sub-contractor.

There had been eight or ten cases of typhoid fever at camp No. 1, no accidents and one death. Camp No. 1 was very bad, being located on muskeg, and the water was badly contaminated. The sub-contractor after unheeded warnings, being prosecuted and fined, after which the buildings were removed to high ground, good water procured and used for drinking and culinary purposes, and then the general health of the men became good and the sanitary condition of the camps was properly looked after.

There was a good hospital (known as Wild Lake hospital) erected on a point of the lake opposite camp No. 1, which was at first in charge of Robert Wightman, M.D., as district medical officer, but he being taken down with typhoid, was removed as a patient to the Jubilee hospital at Kenora, and was temporarily replaced at the Wild Lake hospital by L. C. Panton, M.D., who was succeeded by J. O. Walker, M.D., as resident and district medical officer thereof, and he is still in charge. Two trained female nurses and an hospital orderly were employed at said hospital.

Hawk Camps.—T. O. Sullivan, sub-contractor. Grading and filling.

This camp was located at Cariboo lake, and about seventy-five men were employed thereat, who were housed in log buildings and boarded by the sub-contractor. There had been no contagious or infectious diseases, accidents or deaths, and the general health of the men, the water used, and the sanitary condition of the camp were good.

The hospital at Wild Lake was used when necessary. R. Wightman, L. C. Panton and M. J. O. Walker, being the district medical officers of this camp for various periods, the latter being at present in charge.

Hawk Camps.—Thompson & Egan, sub-contractors. Grading and filling.

There are three camps located, No. 1 on north shore of East lake, No. 2 east end of East lake, and No. 3 east end of Flavelle lake.

About two hundred and forty men were employed who were housed in log buildings, and boarded by the sub-contractors. There have been no cases of infectious diseases with the exception of one case of typhoid which recovered, one death, and no accidents of serious nature. The general health of the men, the water, and the sanitary condition of the camps were good.

The hospital at Wild lake was used when necessary.

R. Wightman, L. C. Panton, and M. J. O. Walker, have been district medical officers of these camps, the latter in charge at present.

SESSIONAL PAPER No. 15

Hawk Camps.—Welsh Bros., sub-contractors. Grading, filling and rock work. There are four camps, No. 1 being at east end of Cache lake, No. 2 at west end of Cache lake, No. 3 at Summit lake, and No. 4 (Sharp's camp), at Northwest lake.

About four hundred men were employed, who were housed in log buildings, and boarded by the sub-contractors, with the exception of a few Italians who housed and boarded themselves. There had been no contagious diseases, two accidents, and three deaths, one being from drowning.

At camp No. 1, the stable had to be removed to another site, owing to its contaminating the water of the lake, which had to be used, but otherwise the health of the men, the water supply, and the sanitary condition of the four camps were fairly good.

The hospital at Wild lake was used when necessary.

R. Wightman, L. C. Panton and M. J. O. Walker, have been the medical officers of these camps, the latter in charge at present.

Vermilion Bay Camps.—Anderson & Johnson, sub-contractors. Grading, rock work and filling. There are seven camps, the first of which is located fifteen miles north of Vermilion, a station on the Canadian Pacific Railway, and can be reached by team from there. Four hundred and sixty-five men were employed thereat, housed in log buildings, and boarded by the sub-contractors. There had been no contagious or infectious diseases. Three accidents, no deaths, and the general health of the men, the water obtained, and the sanitary condition of the camps, all first class.

There is a permanent hospital at Parsons camp No. 1, a few miles north on a good road and boat route, that is used when necessary.

H. L. Sims, M.D., is the resident district medical officer of this work.

Vermilion Bay Camps.—Cunningham & Nelson, sub-contractors. Eighty men were employed on this work, and were housed and boarded in good log buildings, by the sub-contractors. There had been no contagious or infectious disease, no accidents and no deaths. The general health of the men had been very good, the water supply and the sanitary condition of the camp fair.

The hospital at Parsons camp No. 1 was used when necessary. H. K. Sims, M.D., was the district medical officer in charge of this work.

Vermilion Bay Camps.—J. Woods & Co., sub-contractors. Thirty men were employed on this sub-contract, who were housed and boarded in log buildings, by the sub-contractors. There had been no contagious disease, three serious accidents, no deaths, and the general health of the men had been good.

The hospital at Parsons camp No. 1, was used when necessary. H. K. Sims, M.D., was the district medical officer in charge of this work.

Vermilion Bay Camps.—Leudstrom & Co., sub-contractors. Twenty-five men were employed, who were comfortably housed and boarded by the sub-contractors.

There had been no contagious diseases, accidents or deaths, and the general health of the men, and the condition of the camp good.

The hospital at Parsons Camp No. 1 was used when necessary. H. L. Sims, M.D., was the district medical officer in charge.

Vermilion Bay Camps.—H. Botham & Co., sub-contractors.

Twenty-five men were employed who were well housed and boarded by the sub-contractors.

There were no contagious diseases, accidents or deaths, and the general health of the men was good.

H. L. Sims, M.D., was the medical officer.

Vermilion Bay Camps.—Maudsith & Co., sub-contractors.

Twenty-five men were employed, who were comfortably housed and boarded by the sub-contractors.

8-9 EDWARD VII., A. 1909

There were no serious diseases, deaths, or accidents, and the health of the men was good.

Vermilion Bay Camps.—W. T. Parsons, sub-contractor. Rock work chiefly. These camps are situated about eighteen miles from Vermilion bay, and can be reached by team. Four hundred and fifty men are employed, who are located in seven camps, situated on Canyon lake, and housed and boarded in good log buildings, by the sub-contractor. There have been ten cases of typhoid, but no other contagious or infectious diseases, seven serious accidents and five deaths. The general health of the men has been good, and the sanitary conditions of the camps very fair. Good water is obtained from Canyon lake, and latrines are provided for each camp. A good hospital has been established at W. T. Parson's headquarters camp, with an orderly and trained female nurse employed.

D. G. Dingwall, M.D., is the district medical officer residing at these camps.

Vermilion Bay Camps.—Chas. Peterson, sub-contractor. Rock and sand work. One hundred and fifty men are employed on this sub-contract, who are located in two camps, and housed and boarded in log buildings by the sub-contractor. There have been no contagious diseases, only one serious accident and no deaths. The general health of the men, the sanitary condition of the camps, and the water supply has been good. The permanent hospital at W. T. Parson's headquarters is used when necessary.

D. C. Dingwall, M.D., is the district officer of these camps.

Vermilion Bay Camps.—Geo. Jachetta, sub-contractor. Rock work principally. One hundred and seventy-five men are employed on this work, located in two camps, situated on Little Canyon lake, and are housed and boarded in good log buildings, by the sub-contractor. There has been one case of typhoid, but no other cases of contagious or infectious diseases, some minor accidents, and no deaths. The general health of the men, the sanitary condition of the camps, and the water supply has been good. Latrines are provided, and the permanent hospital at Parson's head camp is used when necessary.

D. G. Dingwall, M.D., is the district medical officer of these camps.

Vermilion Bay Camps.—J. P. Morgan, sub-contractor. One hundred and twenty men were employed, who are housed and boarded in log buildings by the sub-contractor. There were two cases of typhoid, seven rather serious accidents, and one death from dynamite explosion. The general health of the men, the water used, and the sanitary condition of the camp has been good. The permanent hospital at Parson's camp was used when necessary.

D. G. Dingwall, M.D., is the district medical officer of the camp.

Dryden, Ont., Camps.—Geo. H. Webster, sub-contractor. Fourteen miles of rock and earth work. The camps are six in number, the first situated some eighteen miles north from Dryden, Ont., a station on the Canadian Pacific Railway, and can be reached by team from there. Three hundred and ninety-five men were employed on the work, who are boarded and housed in good log buildings by the sub-contractor. There had been no contagious disease, two accidents, seven deaths from dynamite explosion, and one from natural causes. The general health of the men had been excellent, and the water and the sanitary conditions of the camps good. A permanent hospital is established at No. 4 camp (which is headquarters), employs an hospital orderly and a trained female nurse, and is under the charge of John Brandon, M.D., as district medical officer of all these camps.

Dryden, Ont., Camps.—O. C. Thompson, sub-contractor. Rock cutting and excavation. One camp located at extreme western end of Webster's sub-contract. Sixty-five men were employed, and were housed in well built log buildings, and well boarded by the sub-contractor. One patient only had been taken to the hospital, and there had been no contagious diseases, serious accidents or deaths. The general health of the

SESSIONAL PAPER No. 15

men had been excellent, the water was good, being taken from a spring, and the camp is one of the cleanest I have seen on railway construction work. A well equipped hospital is provided for temporary use.

John Brandon, M.D., is the district medical officer attending the employees of this camp.

Dryden, Ont., Camps.—P. W. McLean, sub-contractor, eight miles of earth and rock work. These camps are three in number, and are situated twenty-eight miles northeast of Dryden, and can be reached from there by team. One hundred and twenty men were employed on the work, who were housed and boarded in good log buildings by the sub-contractor.

There had been no contagious or infectious diseases, no serious accidents, and no deaths. The general health of the men had been excellent, and the water and sanitary conditions of the camps were good. Temporary hospital accommodation was provided, and the permanent hospital at T. H. Webster's camp was used when necessary.

John Brandon, M.D., was the district medical officer of these camps.

Wabigoon, Ont., Camps.—Swan Swanson, sub-contractor, from the Eastern Construction Company, under their sub-contract from the J. D. McArthur Company. Ten miles of rock and earth work.

These camps are four in number, and are situated two miles northeast from the last above named and can be reached by team therefrom, or from Wabigoon or Dinorwic, both stations on the Canadian Pacific Railway by team and then by boats. Three hundred and fifty-five men were employed on the work, who were housed and boarded in good buildings by the sub-contractor. The general health of the men had been very good, and the water and sanitary condition of the camps had also been good. There had been no contagious or infectious diseases, accidents or deaths. Temporary hospital accommodation was provided, but the permanent hospital at camp No. 2 of the Eastern Construction Company, was used when the doctor thought it advisable.

F. H. Trousdale, M.D., had been the district medical officer of these camps for the first quarter of the year, and was succeeded by Dr. White, who only remained a short time, and was succeeded by W. W. Nasmith, M.D., who is now in charge of the camps.

Wabigoon, Ont., Camps.—Eastern Construction Company, sub-contractors. Twenty miles of rock and earth work.

There are five camps, running from the extreme easterly end of the McArthur contract, and can be reached by team from Wabigoon and then by boats and portages. About three hundred men were employed on the work, who were housed in good log and board buildings, and well boarded by the sub-contractors. The general health of the men had been excellent, and the water supply, and the sanitary condition of the camps good. There had been no contagious or infectious diseases, and no serious accidents or deaths. A permanent hospital was maintained at the headquarters camp No. 2, and was provided with an hospital orderly and a trained female nurse.

F. H. Trousdale, M.D., had been the district medical officer of these camps, but was succeeded by Dr. White for a short period, and he was replaced by W. W. Nasmith, M.D., who is now the medical officer residing at the camps.

Abitibi Section.—Districts 'C' and 'D.' From about eight miles west of the Abitibi river, crossing easterly for one hundred and fifty miles.

This section was let to the Grand Trunk Pacific Construction Company, and sublet by them to the J. H. Reynolds Construction Company, of St. Louis, U.S.A.

McDougalls Chute Camps.—The J. H. Reynolds Construction Co., sub-contractors. Access to these camps is by the Temiscaming and Northern Ontario Railway to McDougalls Chute, then fifty miles north by road in winter, and in summer by canoe on the Abitibi river to the crossing.

8-9 EDWARD VII., A. 1909

Construction work is only commencing on this section, and the sub-contractors have been getting in the necessary machinery, implements and supplies during the winter roads.

With the exception of some right of way camps, there are only two permanent camps at present, one located at McDougalls Chute, and the other fifty miles north at the crossing of Abitibi river. Only about one hundred men have been employed up to the present, who are housed in framed camps and boarded by the sub-contractors. The general health of the men and the sanitary conditions of the camps have been good. There were no serious diseases, accidents or deaths, and hospital accommodation was provided at the northern camp.

John McCombe, M.D., is the supervising medical officer for the sub-contractors, and George R. Johnson, M.D., is the resident district medical officer. Eastern section district 'B' from a point a few miles northwest of La Tuque village, to a point known as Weymonachene, a distance of about forty-five miles. This section was let to the Grand Trunk Pacific Construction Company, and was sub-let by them to Messrs. Macdonnel & O'Brien. There were ten sub-contractors under Messrs. Macdonnel & O'Brien on this section, who had twenty camps, and employed about seventeen hundred men, who were housed in good log buildings, and boarded by the sub-contractors on the work.

There had been twenty-five cases of typhoid, and one of diphtheria, no serious accidents, but there were five deaths. The sanitary condition of the camps, the quality of water used, and the general health of the men were good. A good-sized hospital was erected and maintained at the 'Little Farm,' Vermilion river, with an hospital orderly employed. B. Denovan, M.D., was the district medical officer of the westerly camps of the section, with residence at the hospital, and N. A. MacNab, M.D., had been district medical officer of the eastern camps of the section for some time, and was succeeded by D. Nathan, M.D., who is in charge at present. John McCombe, M.D., is the medical supervisor of the work on behalf of Messrs. Macdonnel & O'Brien.

Quebec Section.—From a few miles northwest of La Tuque village, southeast 100 miles, to junction of section of sub-contract let to Messrs. M. P. and J. T. Davis. This is under contract to Messrs. Macdonnel & O'Brien, of Montreal. Four hundred and twenty-five men were employed thereon.

John McCombe, M.D., of Buckingham, Que., is the chief medical officer on behalf of the contractors, and has two district medical officers, resident at suitable points on the route, with a hospital established under charge of a district medical officer and caretaker, in the neighbourhood of La Tuque village.

Drs. J. A. Ribirdy and James Franckum, being the district medical officers.

La Tuque Camps.—Brennan & Munro, sub-contractors. There was one camp at which about fifty men were employed, and who were well housed and boarded by the sub-contractors. There were no infectious diseases, serious accidents or deaths. J. A. Ribirdy was the district medical officer in charge.

La Tuque Camps.—A. Finlayson was the sub-contractor. There was only one camp, situated at Creek au Beauce, at which sixty men were employed, housed and boarded in wooden buildings by the sub-contractor. There had been three cases of typhoid, no deaths, and but one accident. The health of the men, water supply and sanitary conditions were good.

T. Hewitt, M.D., had been the district medical officer of this camp, and was succeeded by J. A. Ribirdy, M.D., who is at present in charge.

La Tuque Camps.—Jackson & Connolly, sub-contractors. There are two camps situated at Lac au Beauce, in the La Tuque district, at which ninety men were employed, who were housed and boarded in log buildings by the sub-contractors.

There had been one case of typhoid, no accidents or deaths, and the general health of the men, the water supply and the sanitary condition of the camps, were good.

SESSIONAL PAPER No. 15

Two latrines were provided, and also an hospital tent. The doctors last mentioned were the district medical officers of these camps.

La Tuque Camps.—O'Brien & Martin, sub-contractors for grading, &c., nine to ten miles.

There are two camps situated in the neighbourhood of La Toque village, about fifty-two miles from Hervey Junction, on the Canadian Northern Railway, and can be reached by rail, by team or by boat, when the water in the river permits.

One hundred men were employed thereat, who were housed and boarded by the sub-contractors, with the exception of some who resided in the neighbourhood.

There had been one case of typhoid, no deaths and only one accident. The general health of the men, the water supply, and the sanitary condition of the camps were fair. A tent was provided for temporary hospital accommodation, but a permanent hospital was established in a convenient place. Latrines were provided for each camp.

T. Hewitt, M.D., has been resident district medical officer of these camps, and was succeeded by James Franckum, M.D., who is at present in charge and resides at the hospital.

La Tuque Camps.—There are two other small camps in this locality, one operated by A. Munson, as sub-contractor, and the other, by D. R. MacDonald, as sub-contractor.

Only about one hundred men are employed in the two camps, who are well housed and boarded by the sub-contractors, their general health being excellent, and there being no serious accidents or deaths.

James Franckum, M.D., is the district medical officer of these camps.

Reeds Camps.—The work at these camps, which are south of the La Tuque camps, is about completed, several of them being closed, and very few of the men being employed at any of the others. The health of these men had been generally good, but there were several cases of typhoid and one death therefrom, and one death from an accident at Hervey Junction, the man falling into the grating of the steam shovel.

B. Bordeleau, M.D., was the district medical officer over the few men employed.

St. Prospère Camps.—McInnes & McInnes, sub-contractors for grading, &c. These camps can be reached from Grandine, a station on the Canadian Pacific Railway. Sixty men were employed on the work, who were housed and boarded by the sub-contractors in good wooden buildings. There had been no contagious diseases, accidents or deaths, and all other conditions were good. A temporary hospital in charge of Dr. Bordeleau, at St. Thecile was used.

B. Bordeleau, M.D., was the district medical officer of the work.

Section from Quebec Bridge.—Fifty miles northwest. The contract for this work was given to Messrs. MacDonnel & O'Brien, of Montreal, together with the section reported above as being constructed by them, but they sub-let these fifty miles to Messrs. M. P. and J. T. Davis, of Quebec, who are constructing the same, with three sub-contractors under them. Messrs. Lothain, Rainboth, Roberge and Chagnon.

Several hundred men were employed thereon, but there are no special camps, the men living in their own homes, or boarding with residents scattered along the line.

There had been no contagious or infectious diseases and no deaths, but there were four minor accidents. The general health of the men and the sanitary conditions were good, the water supply being fair.

J. P. Lavoie, M.D., of Quebec, was the chief district medical officer early in the year, with A. Marcotte, M.D., as resident district medical officer at St. Basile, P.Q. This work is about completed.

Quebec Section, District 'B.'—From a point near Quebec bridge easterly for a distance of one hundred and fifty miles.

8-9 EDWARD VII., A. 1909

This section was let to Messrs. M. P. and J. T. Davis, of Quebec, who have sublet it in small sections to various sub-contractors.

J. E. Parent, M.D., of Quebec, is the chief medical officer of the whole work.

St. Lambert Camps.—Peacock & Leamy, sub-contractors for fifty miles. There were two camps with about one hundred and forty men employed, some of them housed and boarded by the sub-contractors, some by themselves. There had been no infectious diseases, accidents or deaths, and the general health of the men, and sanitary conditions of camps had been good.

A hospital at St. Anselme was used when necessary. J. E. Parent, M.D., was the district medical officer of these camps.

St. Isidore Camps.—Patrick Purigo, sub-contractor for five miles. About seventy men were employed, who housed and boarded themselves. There were no infectious diseases, accidents or deaths, the health of the men being good.

The hospital at St. Anselme was used when necessary. J. E. Parent, M.D., was the district medical officer of this work.

St. Claire and St. Anselme Camps.—A. Morrison, sub-contractor for fifteen and one-half miles. These were fair camps with about two hundred men employed, who were well housed and boarded, some by the sub-contractor, some by themselves.

There were no infectious diseases, serious accidents or deaths, the health of the employees being good. St. Anselme hospital was used.

J. E. Parent, M.D., was the district medical officer.

St. Malachie Camps.—A. McGougan, sub-contractor for seven miles. There were four camps, with two hundred and twenty men employed, who were well housed and boarded by the sub-contractor.

There was one case of typhoid, four serious accidents but no deaths, the general health of the men, the water used, and the sanitary conditions of the camps, being good.

The hospital at St. Anselme was used when necessary.

J. E. Parent, M.D., was the district medical officer of these camps.

St. Lazare Camps.—Beaurigard & Dufour, sub-contractors for seven miles. There were four camps and about one hundred and seventy-five men employed, who were housed and boarded by separate caterers for each camp.

There were two cases of typhoid, but no other infectious diseases, one serious accident, and one death. The general health of the men, the water supply, and the sanitary state of the camps were good.

There was a hospital at St. Anselme that was used. J. O. Saint Pierre, M.D., of St. Gervais, county of Bellechasse, was the district medical officer.

Armagh Camps.—Johnson & Sabiston, sub-contractors for concrete work. There were about fifty men employed who lodged and boarded in surrounding houses.

There were no serious diseases, accidents, or deaths. This work is now completed. J. O. Saint Pierre, M.D., was the district medical officer.

Armagh Camps.—Gagnon & Massicotte, sub-contractors for five miles. About one hundred and seventy-five men were employed, who were located in two camps, and well housed and boarded by the sub-contractors. There had been no infectious diseases, serious accidents or deaths, and the general health of the men, and sanitary condition of camps good. The hospital for various camps was located here.

J. O. Saint Pierre, M.D., was the district medical officer.

Armagh Camps.—Murdock Bros., sub-contractors for ten miles. There were four excellent log camps, at which about four hundred men were well housed and boarded by the sub-contractors.

SESSIONAL PAPER No. 15

There had been two cases of typhoid, no serious accidents and no deaths. The general health of the men had been very good, and the water supply and sanitary conditions of the camps excellent.

The hospital for use of various camps was near by, and easily accessible from all camps. J. O. Saint Pierre, M.D., was the district medical officer.

Armagh Camps.—P. Pilot, sub-contractor from Murdock Bros. There was only one camp at which about forty men were employed, and there had been no serious diseases, accidents, or deaths. J. O. Saint Pierre, M.D., was the district medical officer.

St. Rosaire Camps.—A. M. Ryan, sub-contractor for ten miles. There were three camps, with about three hundred men employed, who were housed and boarded in good buildings and well boarded by the sub-contractor.

There had been one case of typhoid, two accidents, but no deaths. The general health of the men was excellent, and the water supply and sanitary conditions good.

The hospital at Armagh was used. J. O. Saint Pierre, M.D., was the district medical officer.

Bras D'Apie Camp.—Perron & Co., sub-contractor for seven miles. About one hundred and fifty men were employed, who were well housed and boarded by the sub-contractors. There had been no serious diseases, accidents, or deaths, the general health of the men, and condition of the camp being good.

There was a hospital established at St. Perpetue, county of L'Islet, for general use of surrounding camps.

J. P. Masse, M.D., of St. Perpetue, was the district medical officer.

St. Perpetue Camp.—Stewart Bros., sub-contractors for eight miles. About fifty men were employed, who were well housed and boarded by the sub-contractors. There had been one case of typhoid, but no serious accidents or deaths. The general health of the men and the condition of the camp were good. The permanent hospital was established here.

J. P. Masse, M.D., was the district medical officer.

Lac Ste. Anne Camps.—Dibona, Orlando Bros., sub-contractors for seven and one-half miles. About forty men were employed, who were well housed and boarded by the sub-contractors. There had been no serious diseases, accidents or deaths, the health of the men and the condition of the camp being good. The hospital at St. Perpetue was used.

J. P. Masse, M.D., was the district medical officer.

Lafontaine Camp.—Wm. D. Scott, sub-contractor for five miles. There were only forty men employed in this camp, who were housed and boarded by the sub-contractor. There had been no serious diseases, accidents or deaths the general health of the men being good.

The hospital at St. Perpetue was used when necessary.

J. P. Masse, M.D., was the district medical officer of this camp.

New Brunswick Section, District 'A.'—From a point near Grand Falls, westerly to the boundary between the provinces of New Brunswick and Quebec, a distance of about sixty-two miles. This was let to Messrs. Lyons & White, who have made their headquarters at Edmundston, N.B., and have sublet the work to various sub-contractors.

Baker Brook and Lake Camps.—Messrs. Kennedy & MacDonald, sub-contractors. There are two camps with about one hundred and twenty-five men employed, who are well housed and boarded by the sub-contractors. There had been no contagious diseases, serious accidents or deaths. The general health of the men was good, the water was of excellent quality, being obtained from springs, and the sanitary conditions of the camps were good. The Hotel Dieu Hospital at St. Basil, N.B., was used

8-9 EDWARD VII., A. 1909

when necessary. P. H. Laporte, M.D., of Edmundston, was the district medical officer in charge.

Caron Brook Camps.—W. J. Sims & Co., sub-contractors. There are three camps, with about two hundred and fifty men employed, who were well housed by the sub-contractors, but boarded themselves. There had been no infectious diseases or deaths, but there were three serious accidents. The general health of the men and the condition of the camps were good, and the water used was first quality.

The Hotel Dieu Hospital at St. Basil, N.B., was used when required.

P. H. Laporte, M.D., was the first medical officer in charge.

St. Basile Camps.—W. J. Sims & Co., sub-contractors. There was only one camp with about thirty employed, who were housed by the sub-contractors, but boarded themselves. There were no serious diseases, deaths or accidents.

The Hotel Dieu Hospital was located near by and was used when required. J. Adolphe Guy, M.D., of Edmundston, was the district medical officer.

St. Basile Camps.—H. Sorette, sub-contractor. There were four camps, and about one hundred and twenty-five men employed, who were housed by the sub-contractor, and some of them boarded by him, the others boarding themselves.

There were no serious diseases, accidents or deaths, and the general health of the men was good. The Hotel Dieu Hospital was used.

J. Adolphe Guy, M.D., was the district medical officer.

St. Basile Camps.—L. W. Reade, sub-contractor. There were three camps, with about one hundred and twenty men employed, who were housed by the sub-contractor, and partly boarded by him, the others boarding themselves.

The local Hotel Dieu Hospital was used. There had been no serious diseases, accidents or deaths, the general health of the men being good.

J. Adolphe Guy, M.D., was the district medical officer.

St. Leonard Camps.—Allan & McInnes, sub-contractors. About seventy-five men were employed, who were housed and boarded in three camps by the sub-contractors.

There were no serious diseases, accidents or deaths, the health of the men being good.

C. G. Main, M.D., of Edmundston, was the district medical officer.

St. Leonard Camps.—Henry Sorette, sub-contractor. There was one camp with about thirty employees, who were housed and boarded by the sub-contractor.

There were no serious diseases, accidents or deaths. The hospital at St. Basile was used. C. G. Main, M.D., was the district medical officer.

St. Leonard Camps.—Wheaton Bros., sub-contractors. There were two small camps with about fifty men employed, who were housed and boarded by the sub-contractors.

There were no serious diseases, accidents or deaths, and the St. Basile hospital was used.

C. G. Main, M.D., was the district medical officer in charge.

Moncton Section, District 'A.'—From a point near the city of Moncton, N.B., westerly for a distance of about fifty miles. This was let to the Grand Trunk Pacific Construction Company, and was sublet by them to the Corbett Floesch Co. There is an adjoining section of eight miles, that was let to the John W. McManus Co., Ltd.

H. B. Hay, M.D., of Chipman, N.B., is the medical superintendent of both the above sections.

Chipman Camps.—John W. McManus Co., sub-contractors for eight miles. There were two camps, No. 1 at Chipman, No. 2 about three miles east. There were about forty men employed, some of whom were housed and boarded by the sub-contractors,

SESSIONAL PAPER No. 15

others by surrounding residents. There had been one case of diphtheria, but no other serious diseases. There was one serious accident, but no deaths.

Temporary quarters were provided for hospital purposes. The general sanitary conditions, and the water supplied was fair. H. B. Hay, M.D., was the district medical officer.

Chipman Camps.—Corbett, Floesch & Co., sub-contractors for fifty miles. There was one camp at Chipman with about fifty employees, housed and boarded by the sub-contractors. There had been no contagious diseases, serious accidents, or deaths, and the health of the men and condition of the camp was good. H. B. Hay, M.D., was the district medical officer.

Moncton Camps.—Corbett, Floesch & Co., sub-contractors. There were three camps, No. 1 being two miles from Moncton, No. A four miles therefrom, and No. 2 eleven miles therefrom. Three hundred and twenty-five men were employed, who were mostly housed and boarded by the sub-contractors, a few living with surrounding residents.

There had been one case of erysipelas, six accidents, but no deaths. The general health of the men, the sanitary condition of the camps, and the water used were good.

A. R. Myers, M.D., of Moncton, was the district medical officer attending these camps.

GRAND TRUNK PACIFIC RAILWAY.

Branch from Fort William to junction of National Transcontinental Railway, 210 miles.

Messrs. Foley Bros., Larson & Co., are the contractors with headquarters at West Fort William, Ont., from the commencement of the work, but which were removed to Dinorwic, Ont., and there are twenty sub-contractors.

About two thousand men were employed, located at thirty camps along the route, housed in wood buildings and boarded by the contractors. The sanitary condition on the work was good, there being latrines at each camp. The general health of the men has been excellent; with the exception that a good many cases of typhoid developed, owing to the poor quality of the water obtainable.

There were thirteen serious accidents, with six deaths in all. Three well equipped hospitals are maintained, well located, and each in charge of a resident medical man and a trained nurse, one at Fort William in charge of F. J. Ewing, M.D., and a medical assistant, one at Grasse Narrows, Ont., that was in charge of J. A. Speers, M.D., he being succeeded by Dr. Baillie, who is now in charge, and one at Camp Mile 180, that was in charge of A. E. Hylis, M.D., who was succeeded by F. H. Callahan, M.D., who is the resident district medical officer at present.

F. J. Ewing, M.D., is the chief medical officer for the contractors, and makes his headquarters at Fort William, Ont.

CANADIAN PACIFIC RAILWAY.

Kenora Section.—Rock work extending over seventy miles. Messrs. Foley Bros., Larson & Co., are the contractors, and they in the early part of the season, were double tracking the line in places, from Fort William to Winnipeg.

About two thousand men were employed who were housed and boarded in lumber camps by the contractors. There had been a good many cases of typhoid fever, with several deaths therefrom, and some serious accidents and deaths from dynamite explosions. The general health of the men was otherwise good, as were also the sanitary conditions of the camps, the refuse being either burned or carted away, and box closets supplied and regularly cleaned. The general hospital at Kenora is used when necessary.

8-9 EDWARD VII., A. 1909

W. J. Gunne, M.D., of Kenora, is the district medical officer of this work.

Toronto-Sudbury Branch.—Parry Sound to Byng Inlet, Ont., forty miles. The Ross-Harris Company, Limited, of Parry Sound, are the contractors. About six hundred men were employed who were housed in good log and board buildings, and boarded by the contractors.

Of contagious and infectious diseases, there had been none. There were many minor accidents and two deaths.

The general health of the men had been good. The water supply obtainable was poor, even from wells.

Latrines were supplied, and the sanitary conditions of the camps were good.

There was an excellent permanent hospital established in a central locality, under charge of J. P. Russell, M.D., who was the district officer of the work.

This work is about completed.

Walkerton-Lucknow Branch.—From a point on the Canadian Pacific Railway, near Picton, Ont., westerly to the town of Walkerton, Ont., a distance of thirty-seven and one-half miles. Messrs. Macdonald & Stephen, of Durham, Ont., are the contractors. About four hundred men were employed, who were well housed and boarded by the contractors.

There had been one case of scarlet fever, and one case of measles. There had been several serious accidents, and one death from Bright's disease.

The general health of the men and the sanitary conditions have been good.

The Walkerton General Hospital, and the Royal Alexandra were used when necessary.

Doctors Jamieson and Maclaurin, of Durham, Ont., were the district medical officers.

Georgian Bay and Seaboard Railway Branch.—From near Coldwater, Ont., to a point on Hogg bay, Victoria harbour, Ont., about fourteen miles, which is under contract to the Toronto Construction Company. About three hundred men were employed, who were well housed and boarded by the contractors. There had been no serious diseases, accidents or deaths, the general health of the men and the sanitary conditions good.

The hospital at Midland was used when necessary. Wm. B. Boyd, M.D., of Coldwater, Ont., was the district medical officer of the work.

Toronto, Grey and Bruce Railway Branch.—From near Bolton, Ont., to Weston, Ont., about nine miles. This is under contract to Messrs. G. A. Beggy & Co., of Woodbridge, Ont. There were three camps with about seventy-five men employed, who were well housed and boarded by the contractors.

There had been no serious diseases, accidents or deaths.

P. D. McLean, M.D., of Woodbridge, Ont., was the district medical officer.

CANADIAN NORTHERN RAILWAY.

Toronto-Sudbury Branch.—From north of Canadian Pacific Railway crossing to Hutton and Sudbury. Angus Sinclair, C.E., of Parry Sound, is the contractor for this work, which is now composed of tracklaying and ballasting. About three hundred men were employed, who were housed in boarding cars, and well boarded by the contractor.

There were no contagious diseases, one serious accident, man run over by train, and one death.

The general health of the men was excellent. There was a hospital at Sudbury, which was used if necessary.

R. B. Struthers, M.D., of Sudbury, was the district medical officer in charge.

This work is about completed.

SESSIONAL PAPER No. 15

Key Harbour Camps.—Angus Sinclair, C.E., is the contractor for tracklaying, ballasting, bridge construction, &c. From three to five hundred men were employed, who were well housed and boarded by the contractor.

There were no contagious diseases, four serious accidents and five deaths, but the general health of the men was good.

The Parry Sound General Hospital was used when necessary.

W. N. Robertson, M.D., was the resident district medical officer.

This work is about completed.

CENTRAL ONTARIO RAILWAY.

Bancroft to Maynooth, Ont.-Whitney extension of about twenty-eight miles. W. G. Gibson, of Port Hope, Ont., is the chief contractor, and the company are doing a small portion of the work themselves. About two hundred men were employed thereon, who were housed in shacks or wood buildings erected by the company along the line, or in farm houses and boarded by James Robinson on contract. The health of the men had been good, and no contagious or infectious diseases developed. There had been no deaths or serious accidents. Tents and houses were provided for temporary accommodation, and the Belleville General Hospital was used in case of necessity.

The water supply was from springs, and was very good. Latrines were provided in suitable locations and the general sanitary conditions of the camps were good.

A. T. Embury, M.D., of Bancroft, is the district medical officer of this work.

CANADIAN NORTHERN QUEBEC RAILWAY.

Montford Branch.—From Junction with main line near St. Jérôme, Que., to junction with the Montford and Gatineau railway, about sixteen miles. This work was carried on by Messrs. Mackenzie, Mann & Co., of Toronto, who sublet the same to Messrs. O'Brien & Mullarky, of Montreal, and they again sublet it in four divisions, to the following contractors: T. Kert, Morrison, Bonneville and Mulhern, and McDonald & Sunstrum. There were four camps, and three hundred and forty men were employed, who were housed and boarded in tents and wood shacks by the sub-contractors. There had been two cases of typhoid fever, one serious accident, and no deaths. The general health of the men, the water supply, and the general sanitary conditions of the camps were good. Temporary tents were provided for hospital use, and a Montreal hospital used in case of necessity.

D. Berthiaume, M.D., of St. Jérôme, Que., was the district medical officer of the work.

This work is now completed.

Extension of Main Line.—From near Shawinigan to Quebec city, about eighty-six miles. This work is also being carried on by Messrs. Mackenzie, Mann & Co., of Toronto, who have contracted with Messrs. O'Brien & Mullarky, of Montreal, for the construction thereof, and the latter have sublet parts thereof to four sub-contractors, viz., Bamfield, McManus, Sorret and S. Maloney. There are four camps, one at St. Casimir, one at St. Anne, one at St. Prospère, and one at St. Stanislas, in the county of Champlain. About two hundred men were employed in all, about one hundred of them being housed and boarded in tents and buildings by the sub-contractors, the remainder boarding with surrounding farmers. There had been no contagious or infectious disease, no deaths, and only one accident. The general health of the men, the water supply, and the sanitary conditions were good. Hospital quarters were provided in case of urgency, but one of the Montreal hospitals would be used in case of necessity. Rosario Frigon, M.D., of St. Casimir, was the district medical officer of the first three camps, and Ferdinand Trudel, M.D., of St. Stanislas, the district medical officer of the camp there.

This work is well advanced towards completion.

8-9 EDWARD VII., A. 1909

La Tuque Branch.—From La Tuque Junction to La Tuque village, about forty-two miles. This work had been under construction for some time, and is under contract to Mr. Joseph Paquette, who sublet the northwestern portion to Messrs. O'Brien, Fowler & Co. Four to five hundred men were employed, who were housed in good permanent buildings, and were well boarded by the sub-contractor. The general health of the men had been excellent, the water supply of the very best, and the sanitary conditions of the camps good.

There had been no contagious or infectious disease, no deaths, and only one accident. Latrines were supplied at the permanent camps.

The General Hospital at Quebec was used if necessary.

A. B. Camison, M.D., was the district medical officer for the sub-contractors. This work has been completed and trains are being operated by Mr. Joseph Paquette, the main contractor.

In closing this my report for the twelve months ended March 31, 1908, I am pleased to again be able to draw your attention to the abatement of contagious and infectious diseases (with the exception of typhoid fever), the general healthfulness of the men, the good sanitary conditions of most of the camps at said works, and the attention given by the companies, contractors, sub-contractors and medical officers in trying to comply with the requirements of the regulations under the Public Works Health Act, 1899.

I have the honour to be, sir,

Your obedient servant,

CHAS. A. L. FISHER,

Public Works (Health) Inspector.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 14.

(F. F. CHAMBERLIN, M.D.)

TORONTO, April 4, 1908.

SIR,—I beg to submit my report for the year ended March 31, 1908, as to the condition of health of men employed on Public Works, west of Winnipeg, as required by the Public Works (Health) Act. Compared with last year, there has been a marked improvement in the health of the men employed on railway building and the sanitary conditions of the camps. This season having been an excellent cool one, better facilities for obtaining a purer supply of water for all purposes, and the contractors having given more attention to destroying camp garbage, together with a better supply of medical attendance along most of the lines of the work, has tended to produce this result. The present conditions of the Public Works (Health) Act, are such that it is, and will be difficult to strictly enforce it until amended so that it will meet the conditions existing in railway construction. The constant shifting of camps from place to place, the large number of sub-contractors, few men employed at many of the camps, and the distances between them, make it difficult to supply proper medical attendance, and to enforce proper sanitary conditions. The sub-contractors have nothing to say, or control over medical work, and as a result in many cases the men requiring medical aid do not get it unless the sub-contractor at his own expense calls the nearest medical man he can obtain, and pays him for his services, taking his chances of being reimbursed by the

SESSIONAL PAPER No. 15

railway company, the general contractor or the medical officer who supplies medical attendance, which is not always done owing to the late spring, and wet weather grading work did not commence until about May 15, some of the contractors not having their camps established at that date. My report of June 24, of my first inspections, gives conditions of the camps of the Canadian Northern Railway, from Brandon to Regina. At Brandon and west there were 120 men track-laying. This work was being done by the company. The Cowan Construction Company have the contract for grading from Brandon to Regina. They sublet to various parties who in turn sublet again.

First camp west of Brandon, Doctor Willmouth, sub-contractor from Cowan Construction Company	45	men.
Camp 2, Cowan Construction Company	50	"
Camp 3, Cowan Construction Company	80	"
Camp 4, Cowan Construction Company	20	"
Camp 5, Simpson & Craig, sub-con. from C. Con. Co.	70	"
Camp 6, McQuinn Co., sub-con. from Simpson & Company.	17	"
Camp 7, Mead & Co., sub-con. from Simpson & Craig	20	"
Camp 8, Reder Bros., sub-con. from Simpson & Craig. . . .	35	"
Camp 9, P. Bennet, sub-con. from Simpson & Craig	6	"
Camp 10, Rock & Co., sub-con. from Simpson & Craig. . . .	10	"
Camp 11, Fred Swan & Co., sub-con. from Simpson & Craig. . . .	50	"
Camp 12, J. A. Munson, sub-con. from Cowan & Co.	50	"
Camp 13, J. A. Munson, sub-con. from Cowan & Co.	15	"
Camp 14, Neil Keith, sub-con. from Cowan & Co.	80	"
Camp 15, Wm. Hill, sub-con. from Neil Keith.	7	"
Camp 16, Wm. Hill, sub-con. from Neil Keith.	12	"
Rosburn Extension C.N.R., Contractors Cowan Con. Co. who sub-let to Peter P. Black.	40	"
R. D. McLean, sub-con. from Peter P. Black.	18	"
Watt & Bronstia, sub-con. from Peter P. Black.	25	"
McDougall, sub-con. from Cowan Construction Co.	30	"

There are about 20 or 25 men on the Canadian Northern line north from Prince Albert line, called the Hudson Bay or Fort Churchill Road, commencing at a place called Etomami. This road is built for some 50 or 60 miles north. There is very little difference, if any, in the sanitary conditions existing at all these camps.

There have been no serious cases of sickness or injury up to time of inspection, slough water is used for all purposes, but as soon as the weather gets warm they intend to dig wells. At the present time this slough water is cold, and in many places running. The food is good and well cooked. The men are housed and fed by the contractors, and are charged 75 cents per month for medical attendance, and I am told in some cases \$1 per month is charged in place of 75 cents. No hospital tents, and no latrines are provided as yet. No resident doctors. Doctor Cockrin, who resides at Maryfield on the C.P.R. convenient to camp at mileage 85 from Brandon, has been called a few times to see sick in Simpson & Craig's camps. On the Rosburn extension, Doctor Evans of that place is employed by Doctors McKenzie's, of Winnipeg, to attend the sick or injured at the camps in that locality. He receives 35 cents from each man in the camps, and Doctors McKenzie's, 40 cents. I left cards, copies of the Health Act at all the camps. My second inspection to the C.N.R. camps later in the season, and reported on October 4, 1907, east from Brandon. Track laying pretty well advanced, this work being done by the railway company, the men are housed and fed in box cars, which in every way were very comfortable. No sickness reported.

At the grading camps the men are housed and fed in tents, considerable fault finding by the men, and sub-contractors with the medical attendance; of late a number of local doctors have been employed by Doctors McKenzie's, of Winnipeg, chief medical officers of the company, the men being charged 75 cents per month.

The first grading camp, Clark & Wright, sub-contractors from Cowan Construction Co.	18 men.
Camp 2, Swan & Caughy, sub-con. from C. Con. Co... .	30 "
Camp 3, McFadden & Cadden, sub-con. from C. Con. Co... .	10 "
Camp 4, Simpson & Craig, sub-con. from C. Con. Co. . . .	60 "
Camp 5, E. H. Palmer, sub-con. from C. Con. Co.	6 "
Camp 6, Rider Bros., sub-con from C. Con. Co.	16 "
Camp 7, Edwards, sub-con. from C. Con. Co...	24 "
Camp 8, Dolman, sub-con. from C. Con. Co.	28 "
Camp 9, Mr. Munson, sub-con. from C. Con. Co.	28 "
Camp 10, Mr. Keiff, sub-con. from C. Con. Co...	75 "
Camp 11, Mr. Bell, sub-let from C. Con. Co...	42 "
Camp 12, Mr. Quinn, sub-con. from C. Con. Co.	20 "
Camp 13, Mr. Governin, sub-con. from C. Con. Co... . .	16 "
Camp 14, Bridge & Co., sub-con. from C. Con. Co... . .	40 "
Camp 15, Cowan Co., No. 1.. . . .	75 "
Camp 16, Cowan Co., No. 2.. . . .	60 "

In track laying and grading there are between seven and eight hundred men employed. I attach hereto synopsis of the report sent to me by Doctors McKenzie, of Winnipeg, as to the number of local doctors employed, medical, surgical and other statistics during the past year.

Doctors McKenzie and McKenzie report:—

Doctors employed.. . . .	12
Medical cases—	
Typhoid fever.. . . .	2
Pneumonia.. . . .	3
Smallpox.. . . .	2
Usual number of colds, rheumatism, bronchitis.	
Surgical cases—	
Fracture of leg.. . . .	4
Fracture of ribs.. . . .	1
Minor cases not given.	
Operations—	
For typhoid perforation.. . . .	1
For hernia	2
For varicocoele.. . . .	1
Deaths from accidents.. . . .	3
Deaths from diseases.. . . .	1

CANADIAN PACIFIC RAILWAY.

Early in the season I drove over the line of the Canadian Pacific Railway and visited the camps from Sheho to Lanagan, Saskatoon and Battle river, on the short line to Wetaskiwin; from Battle river to Wetaskiwin the road is completed, and the bridge across the river well under way; there was very little sickness at any of the camps, and the sanitary conditions of the camps was fairly good, this may also be said of the work on the main line from Calgary to Swift Current, the Stressberg line, north and west of Moosejaw, there was no work on line west of Edmonton during the season. Starting from Sheho west the first camp.

Mr. G. K. Hargrave's contractor, J. G. Reid, engineer, 65 men. Hargrave's contract extends some 60 miles towards Lanagan Junction, where it intersects the Stressberg line. He sub-lets to various parties.

SESSIONAL PAPER No. 15

1st camp, his own	65 men.
2nd camp, sub-contractor, Mr. Hallam	20 "
3rd camp, sub-contractor, Mr. Zimer	3 "
4th camp, sub-contractor, Mr. Lindsay	43 "
5th camp, sub-contractor, Mr. Patterson	6 "
6th camp, sub-contractor, Mr. Whilsel	5 "
7th camp, sub-contractor, Mr. Finlay	20 "

The men at these camps are housed and fed in tents. Up to the present time, no doctor has visited these camps. There is no sickness, well and slough water is being used. No latrines; men charged 75 cents per month for medical attendance. Food good, no camp hospitals. Camp 8, which is one mile east of Lanagan Junction, P. R. Lambe, contractor; only a few men employed. Dr. Kidd, of Lanagan, attends the sick. There has been one case of typhoid fever. Well water is used. Men are housed and fed in tents, no hospital; food good. No proper latrines. Dr. Kidd also attends to men at the camps west of Lanagan Junction for 25 miles south on the Stressburg line for 25 miles. He has a shack hospital and nurse at Lanagan. Dr. Kidd is employed by Dr. William Black, of Winnipeg, who has part of the medical work of the C.P.R.

At camp 1, west of Lanagan, Mr. W. B. Neel, sub-contractor, 25 men; 2nd camp, O'Neil, 12 men; 3rd camp, Mr. Bishop, 20 men. Those latter parties sub-let from Mr. Lambe. West from this point the British Columbia Construction Company are the contractors. The camps just mentioned are moving very frequently and are all in about the same sanitary condition, having the same medical attendance as at the other camps east.

Camp No. 4 west of Lanagan, Mr. McLean, sub-contractor, from the British Columbia Company, 25 men.

Dr. Kidd, of Lanagan, attends those camps, and Dr. Humphries, also of Lanagan, takes the work west from this point to Saskatoon. There is practically no difference in the condition of any of those camps, the men are charged 75 cents per month for medical attendance, and the doctors visit the camp once a week. Very little sickness at those camps; few complaints.

I posted at all those camps from Sheho westward copy of the health regulations so that all parties may see what the law requires.

Coming south from Lanagan Junction on the Stressburg line we have Mr. Thomas' camp No. 1, sub-contractor from Mr. Lamb, 5 men.

Second camp, Mr. Lamb's own, 40 men.

Third camp, Croston Green, 5 men.

Fourth camp, Mr. Gundelin, 7 men.

Fifth camp, Lavergne, 9 men.

Sixth camp, MacLeod, 14 men.

Seventh and eight camps, British Columbia Construction Company, 35 and 30 men. At those camps the men are charged \$1 per month for medical attendance. No proper latrines at the above camps. No hospitals, well water. Men housed and fed in tents. Food good. Very little sickness. Dr. Kidd, of Lanagan, is supposed to attend the men at those camps.

There are 120 men at Govan, track-laying. From that point north to Lanagan Junction. They have had no doctor at those camps up to date, July. The men are housed and fed in tents and box-cars. The men made many complaints on account of no doctor and being compelled to pay \$1 per month. Dr. Black, of Winnipeg, promised me to attend to sending a doctor to this point at once, and I understand he has done so. The sick are taken to Brandon hospital. The track-laying is being done by the C.P.R. Co. themselves under the management of Mr. Arthur Williams, as general foreman.

The next camp is at the gravel pit, 30 men employed. Near Stressburg, 130 men are at work on the extension and they are housed and fed in box-cars; have had very

8-9 EDWARD VII., A. 1909

little sickness; no regular medical attendance, no hospitals, and have not been as careful of the disposition of their garbage as they should have been. This has been remedied since, I am informed.

The next camp south is at Lipton, a supply camp of 18 men. The men at those camps complain as to their medical attendance. Dr. Black, of Winnipeg, tells me that he has provided better medical attendance since my visits at the camps, as well as attending to the sanitary conditions of the cars. He has a Mr. Smith, an undergraduate of medicine at Govan, who is supposed to attend the sick south on the line to this point, but at the time of my visits he had no medicines or appliances for attending to the sick or injured.

The C.P.R. Toulon extension from Winnipeg to west side of Winnipeg Lake, J. D. McArthur, contractor. W. A. Mannaix has the sub-contract from them and has 30 men employed grading. This work is being done by shovels and hand barrows, as it is in a muskeg and horses cannot be used. They have had no sickness; well and slough water is used, no doctors, no hospitals, no latrines.

Moosejaw extension of C.P.R. P. R. Lamb & A. C. Smith, contractors; N. W. Butterfield, engineer. The steel is laid to Tuxford, 15 miles north of Moose Jaw. Grading north by W. J. Slater, who sub-lets from Lamb. Has 20 men. Kent & Brown sub-let from Smith, have 35 men. There are two or three small camps of four or five men each, and they are also sub-contractors. Dr. Knight, of Moose Jaw, looks after the medical work. He is employed by A. C. Smith, and is a good man. Dr. J. H. Storey, of Tuxford, assists Dr. Knight west from Tuxford. The men are housed and fed in tents, food is good. Well water is used, no hospital or latrines up to this date. Dr. Knight is now having them provided. The men have not been charged anything up to date, but will be at the end of this month, July. There has been very little sickness at those camps.

On the C.P.R. extension from Boston to Wolseley, J. D. McArthur, contractor. There are three camps south of Wolseley, Dutton & Smith, sub-contractors; 36 men at the first camp. As there are five cases of typhoid fever at this camp, the doctor has ordered the company to move their camp some distance east. The sick cases are in tents and attended every day by Dr. Cook, of Wolseley. They are getting along well. The doctor is employed by Tunson & Dutton.

Second camp, A. G. Young, sub-contractor, 30 men.

Third camp, William Shultz & Son, sub-contractors, 40 men. Very little sickness at those camps to the present time. Dr. Cook looks after the medical work very well. The men are charged 75 cents per month for medical attendance. Housed and fed in tents, food is good, well and slough water is used. No hospital tents. This work will be completed in about 15 days to Wolseley.

The C.P.R. east of Saskatoon to Lanagan Junction is grading, three miles east there are 21 men, 6 miles, 23 men. Mr. Miller sub-contractor from British Columbia Construction Company. Doctor visits those camps once in every week or two weeks, or whenever sent for. Eleven miles east the British Columbia Construction Company have a camp of 40 men. Dr. Humphries attends the men at this camp. I am told he is an undergraduate and lives at Lanagan. No hospital tents, pit latrines. Very little sickness, men are housed and fed in tents, are charged a dollar per month for medical attendance, well water is used. Nineteen miles east of Saskatoon, Mr. Rolison, sub-contractor, from B. C. C. Co., 27 men. There was no doctor at those camps during May and June, but three times in July. Men complain that doctors do not come to the camps. Very little sickness.

The next camp is Mr. Terney's, with a sub-contractor from Canadian White Company, 50 men. No hospitals or latrines. Men charged \$1 per month for medical attendance. Dr. Humphries visits the camp, but at no regular period. There was one case of measles and one of erysipelas. The men complain as to monthly payment and the attendance given.

The next camp is Finches, 27 men. Good camps, well water, good food. Dr. Humphries attends twice a week. Have latrines. No hospital camp.

SESSIONAL PAPER No. 15

Mr. Richard's camp, 50 men, sub-contract from B. C. C. Co. Mr. Merner, camp 25 men. Mr. Madden's, 35; Mr. McLean's, 18; Mr. Lamb, 60 men; sub-contractors from the B. C. C. Company. Drs. Kidd and Humphries, of Lanagan, attend at those camps pretty regularly. No complaints by the men, very little sickness. There is practically no difference between those camps and those previously inspected.

West of Saskatoon, on the C.P.R. line, the steel is laid to Askwith. J. D. McArthur is contractor and sub-lets to other parties. Andre Paulo acts as foreman of Mr. McArthur's camp No. 2., Mr. Dubuc is resident engineer. This camp is moving this week.

Camp No. 1, J. D. McArthur, 36 men. Dr. Parkinson attends those camps and visits them once a week. There has been no sickness, the camps are in very good condition, well water is used.

Camp No. 3, McArthur's, 42 men, very little sickness, no hospital tents. Men are attended by Dr. Parkinson and are charged 75 cents per month. A hospital tent is being put up at camp No. 3 to-day.

C. J. Cameron, a sub-contractor from J. D. McArthur, 13 men; no hospitals, no latrines. The men are housed and fed in tents, charged 75 cents per month for medical attendance. The doctor has only been at this camp once. Work started May 27.

Jos. Dandlin, sub-contractor from McArthur, 19 men. They use well and slough water. Men are housed and fed in tents, no hospitals, earth pit, no doctor at this camp for two months.. Sick are sent to Battleford, 35 miles. Men are charged 75 cents per month.

Henry Thacker, sub-contractor for McArthur, 19 men. No hospitals, no latrines, well water, men housed and fed in tents. Dr. N. D. Mather, of Hardstay, comes to the camps two or three times a month. Men are charged 75 cents a month. This camp is situated at Round Valley, where this road and the Grand Trunk Pacific run side by side for a number of miles.

Whitkles & Stevenson, sub-contractors for McArthur, 8 men. Dr. Mather also attends this camp two or three times a month. Well water, no hospital, one latrine. This camp is in section 24, township 24, range 26, east of the 4th meridian, and a little west of the Grand Trunk Pacific crossing, east of Battle river.

GRAND TRUNK PACIFIC RAILWAY.

Construction work from Portage La Prairie to Edmonton.

The men employed upon this work have been better supplied this season with medical treatment and attendance (under the direction of Doctor Hutchinson, chief medical officer of the company. There has been an improvement in the sanitary condition of the camps, especially in the camps managed by Foley Bros., contractors. There has been some grading work done between Winnipeg and Portage la Prairie; from there west steel is laid, and ballasting done to the McDonald & McMillan section, some 800 men being employed at this work; they are housed and fed in box cars, fitted up for that purpose at different points. McDonald & McMillan, contractors, have a considerable amount of grading to do, and bridge building through the Touchwood Hills, west of Portage la Prairie. The company used cars for sleeping, eating and hospital accommodation.

The cars are kept in very good sanitary condition. Well water, food good. Drs. McCloud and Little, well qualified, are on the works. Good latrines. A few cases of typhoid fever which were taken to the Portage la Prairie hospital. The men are charged 75 cents per month for medical attendance. At the gravel pit, part of the men are housed in tents. East of Saskatoon, first camp, Mr. Lake, sub-contractor, from the Canadian White Company, 55 men. He has 30 miles of grading. Earth pit latrine. Very little sickness. Dr. Peterson, of Saskatoon, attends the men, and visits the camp once in one or two weeks. Well water used. Men are housed and fed

8-9 EDWARD VII., A. 1909

in tents, which are very good. Food good. No complaints by men. Next camp is Mr. S. Farrel, sub-contractor from the Canadian White Company; 50 men. Mr. Farrel sub-let to F. Pratt, S. C. Dame and John Tate. S. Farrel has another of his own camps, east, with 117 men. Mr. Rote, Mr. Burrige, Graham and Talling and Mr. Thersin; 320 men in all. Drs. Genlmette, Crosby and Bryce attend the men at all these camps. Earth pit latrines at most of the camps. Men are housed and fed in tents. Very little sickness. Well and slough water used. Good food. No complaints.

West-of Saskatoon. 1st camp, Mr. Jackson, sub-contractor from Foley Bros., 42 men. Good camp. Well water. Men housed and fed in tents. Food good. Have latrines. Not much sickness. Dr. Roberts attends the men and goes to the camp once a week. Is paid \$50 per month. His headquarters at Foley Bros.,

Camp No. 5.—Men charged 75 cents per month. Has a small tent which is called a hospital at this camp.

Camp No. 2.—Pile driving, 6 men.

Camp No. 2.—Jackson's, 31 men. Dr. Roberts attends once a week. Good camp and latrines. Well water. Housed and fed in tents. Very little sickness.

Camp 3.—Mr. Stockey, sub-contractor from Jackson, 18 men. Dr. Roberts attends. Men complain that doctor does not come when required or at regular periods. A few cases of sickness. They are housed and fed in tents. Well water. No hospital. One latrine.

Camp 4.—Tomkins & Taplin, sub-contractors from Jackson, 20 men. Well water. No latrines. No hospital. Dr. Robert visits the camp once a week. No complaints. Moving camp this week to Round Valley.

Foley Bros. camp No. 4.—31 men. Housed and fed in tents. Very little sickness. Dr. Roberts attends once a week. Men charged 75 cents per month. Earth pits. Those camps are in Eagle Hill country. The C.P.R. line from Sheho to Wetaskiwin runs close beside the G.T.P. line for a number of miles.

Foley Bros. camp No. 5.—49 men. Housed and fed in tents. Dr. Roberts attends. His headquarters is at this camp. Spring water used. Good food. Small hospital tent. Earth pit latrines.

Foley Bros. No. 1.—40 men. Housed and fed in tents. Spring water. Earth pit latrine. Dr. Roberts attends.

Foley Bros. camp No. 3.—30 men, housed and fed in tents. Well water. Good food, earth pit. The sick or injured at this and previous camp are sent to Battleford hospital for treatment, 40 miles. The doctor has been once to this camp. Not much sickness.

Foley Bros. camp No. 2.—46 men. Housed and fed in tents. Well and lake water. No hospital. Earth and pit latrines. Dr. Middlemiss attends the camp for 50 miles. He is located near camp No. 6, of Foley Bros. He attends the work very well and visits the camp once a week. Little sickness. Men pay 75 cents per month. At this point the Grand Trunk Pacific line crosses the C.P.R. line, under it to the north side.

Foley Bros. camp No. 10, 47 men. Housed and fed in tents. Well water. No hospital, no latrines. Dr. Middlemiss attends once a week. Not much sickness.

P. C. Hanson's camp, sub-entractor from Foley Bros. at Round Valley.—44 men. Housed and fed in tents. Spring water. One latrine. No hospital. Dr. Middlemiss attends once a week. Very little sickness. This camp is located in the Sand Hills country.

Morin & Boget, sub-contractors from Foley Bros.—10 men. No hospital or latrines. Housed and fed in tents. Dr. Middlemiss attends. Well water. Good food. No sickness.

Foley Bros. camp No. 9.—69 men. Housed and fed in tents. Well water. Food good. Dr. Middlemiss attends once a week. Not much sickness. No hospital. Earth pit latrines.

William Dumpster, sub-contractor for Foley Bros.—2 men.

SESSIONAL PAPER No. 15

Hanson & Co., sub-contractors for Foley Bros.—10 men. Dr. Middlemiss attends. No hospitals. Pit latrines. Men housed and fed in tents.

Foley Bros. camp No. 6.—53 men. West of this camp, 1 mile, Dr. Middlemiss has a hospital. Lake water. Men housed and fed in tents. One latrine. Doctor visits this camp once a week.

Foley Bros. camp No. 11.—48 men. Housed and fed in tents. Well water. No hospital. One earth pit latrine. Dr. Middlemiss visits once a week. Food good. No complaints.

Foley Bros. camp No. 8.—Men housed and fed in tents. Good water. Dr. Williams attends the men. He goes over 60 miles. Earth pit latrines used. Has hospital at Battle River. Men charged 75 cents per month. Very little sickness.

G. M. Collander, sub-contractor for Foley Bros.—30 men. Housed and fed in tents. Dr. Williams visits the camp once a week. No hospital. One latrine. There are two or three small sub-contractors from this point to Battle river. The Foley Bros. camps are all very good and well looked after by their foreman. Most of those camps which I have inspected east of Battle river will soon be moved to the west side, between that and Edmonton.

East of Edmonton, at Clover Bar, Dr. Ducklow, sub-contractor from S. Jackson, has a camp.—40 men. Housed and fed in tents. Well water. Earth pits. No doctor. No hospital. No sickness. Men have not yet been charged, but will be for the month of July. I left cards. Dominion Health Act, at all of the camps.

The Interior Department of Canada have some 30 men working, building roads and bridges, &c., at Elk Park, southeast of Fort Saskatchewan. Men are housed and fed in tents. No sickness. No doctor. No hospital. No latrines. Well and slough water.

Dr. Hutcheson, chief medical officer of the Grand Trunk Pacific Railway, at Montreal, has and takes full charge of the medical work on this road. He has Dr. Lenay, of Winnipeg, and Dr. Hyslop, of Edmonton, assisting him.

I attach synopsis of Dr. Hutchinson's report to me, as to sickness, accidents, deaths, doctors employed, contractors, sub-contractors, and number of men employed on the railway works during past year.

I have the honour to be, sir,

Your obedient servant,

T. F. CHAMBERLAIN, M.D.

The Honourable

The Minister of Agriculture,
Ottawa.

Dr. Hutchinson's report G.T.P. Railway:—

Sickness—

No. of cases. 974

Injuries—

No. of cases. 328

Deaths—

Pneumonia. 4

Typhoid 4

Heart disease. 1

Acute rheumatism. 1

Sudden. 2

Drowned. 1

Shot. 1

Lightning. 1

Dynamite. 1

— 16

No. of doctors employed. 24

MISCELLANEOUS

No. 15.

REGULATIONS UNDER THE COLD STORAGE ACT.

- 1. The Minister of Agriculture may make appointments of inspectors and other persons for the enforcement of the Act.
- 2. No application shall be considered for any cold storage warehouses except those equipped with mechanical refrigeration, nor any place where any such cold storage already exists or where the proposed cold storage would compete directly with other establishments of the same class.
- 3. Applications for a subsidy under the Act must be made in the following form, which shall be known as Schedule A.

SCHEDULE A.

No.....

Application for Cold Storage Subsidy.

Application is hereby made on behalf of.....
.....
of.....in the province of.....for the
subsidy offered under *The Cold Storage Act* for a public cold storage warehouse
equipped with mechanical refrigerating machinery, to be erected at.....

Particulars.

- Size of building in cubic feet.....
- Refrigerated space in cubic feet.....
- Number of separate chambers.....
- Kinds of produce to be stored.....
-
- System of mechanical refrigeration to be used
-
- Capacity of refrigerating machinery in tons of refrigeration per 24
hours.....
- Character of the available water supply.....
-
- Estimated cost of building, equipment and water supply.. ..
-
- Cost of site.....
- Will the whole building be used for the purposes of a public cold
storage?.....
- If not, what proportion will be set aside for public use?.....
-

Attached are the following documents:—
Exhibit 1, being a copy of the plans and details of the insulation of warehouse.
Exhibit 2, being a true copy of the specification of warehouse and insulation.
Exhibit 3, being schedule of rates to be charged.

SESSIONAL PAPER No. 15

Exhibit 4, sketch showing location of warehouse or proposed warehouse in regard to connection with railway lines and wharfs.

4. The owners of cold storage warehouses in order to secure the subsidy, will be required to maintain the following temperatures therein, for the preservation of the various products mentioned.

Kinds of Produce.	TEMPERATURE.	
	Min.	Max.
Apples and other fruits.....	32	36
Butter.....		20
Cheese.....	35	40
Eggs, Meats and Dressed Poultry.....	30	34
Bacon and Hams.....	40	45
Fish (Frozen).....		20
Meats, Poultry and Game (Frozen)		20
Vegetables.....	34	38

5. Nothing in these regulations shall prevent owners of subsidized cold storage warehouses from entering into special contracts with customers for the maintenance of temperatures other than those herein specified.

6. The first instalment of the subsidy shall not be paid until the applicant shall have presented proper vouchers for the cost of building, equipment, site and other expenditures.

7. The owners of cold storage warehouses to which the subsidy or any part thereof had been paid, may be required to make an annual report to the Minister of Agriculture in such form as may be described.

No... ..

Application for Cold Storage Subsidy.

Exhibit 1, to accompany the application by... ..
... ..
of... ..in the
Province of... ..for the subsidy offered under
The Cold Storage Act for the erection of a cold storage warehouse.

NOTE.—Attach a copy of plans to this sheet.

No... ..

Application for Cold Storage Subsidy.

Exhibit 2, to accompany the application made by... ..
... ..
of... ..of the
Province of... ..for the subsidy offered under *The*
Cold Storage Act for the erection of a cold storage warehouse.

NOTE.—Attach a copy of the specifications of warehouse and insulation to this sheet.

No.

Application for Cold Storage Subsidy.

Exhibit 3, being schedule of maximum rates submitted for approval in connection with the application made by of in the Province of for a subsidy for a cold storage warehouse under the provisions of *The Cold Storage Act*.

Proposed rates for storage—

- Apples, in barrels.
- Apples, in boxes.
- Pears, in baskets or boxes.
- Other fruits.
- Butter.
- Cheese.
- Fresh meats (unfrozen).
- Poultry (unfrozen).
- Fish.
- Eggs.
- Vegetables.
- Game.
- Other products.

No.

Application for Cold Storage Subsidy.

Exhibit 4, to accompany the application made by of in the Province of for the subsidy offered under *The Cold Storage Act* for the erection of a cold storage warehouse.

NOTE.—Attach a copy of sketch showing location of warehouse or proposed warehouse in regard to connection with railway lines and wharfs.

SESSIONAL PAPER No. 15

MISCELLANEOUS

No. 16.

REGULATIONS RELATING TO MANGE.

‘Whereas the disease of Mange exists among cattle throughout those portions of the province of Saskatchewan and Alberta which may be described as bounded by the International boundary, the Rocky mountains and a line drawn as follows:—

‘A line from the Rocky mountains along the northern boundary of the Stoney Indian Reserve to the line between ranges 5 and 6 west of the 5th meridian, thence north along that line to the line between townships 28 and 29, thence east along that line to the line of the Calgary and Edmonton Railway, thence north along the Calgary and Edmonton Railway to the line between townships 30 and 31, thence east along that line to the line between ranges 26 and 27 west of the 4th principal meridian, thence north along that line to the line between townships 34 and 35, thence east along that line to the Red Deer river, thence north along the Red Deer river to the line between townships 38 and 39, thence east along that line to the 4th principal meridian, thence south along the 4th principal meridian to the Red Deer river, thence along the Red Deer and Saskatchewan rivers to the line between ranges 7 and 8 west of the 3rd meridian, thence south along that line to the line between townships 10 and 11, thence east along that line to the line between ranges 20 and 21, west of the 2nd meridian, thence south to the international boundary line.

‘And whereas it is of the greatest importance to the interests of stock owners and to the preservation of a profitable market for western cattle that the policy adopted in 1904 with a view to the eradication of the disease in question should be continued.

‘That after careful inquiry and due consideration it has been decided that the period between June 1 and August 15 is the most suitable and convenient for treatment with the above object.

‘Therefore the Governor General in Council in virtue of the provisions of section 28 of the Animal Contagious Diseases Act, chap. 75 of the Revised Statutes of Canada, 1906, is pleased to order that the above described tract of land shall be, and the same is hereby declared an infected place, and that all persons owning or being in charge of cattle within the above described tract must, except as hereinafter provided, during the said period, dip or otherwise treat such cattle in a manner satisfactory to the officers of the Department of Agriculture, provision being made that where it can be clearly shown to the satisfaction of the said officers that cattle kept under fence in any well defined area or district within said tract, are not affected with, and have not been in any way exposed to, the contagion of mange, or have been, during the present season, treated in a satisfactory manner and subsequently kept isolated from all other cattle, the Veterinary Director General may, on the facts being reported to him, exempt such area or district from such compulsory treatment, but this provision shall in no case apply to cattle kept on the open range, or on unfenced land.

‘Satisfactory treatment shall consist of:—

(a.) Immersion for not less than two minutes in a solution of lime and sulphur of a strength of not less than 10 pounds of lime and 24 pounds of sulphur to 100 gallons of water prepared according to the directions of the officers of the Department of Agriculture, the fluid to be applied at a temperature of not less than 105° nor more than 110° Fahrenheit, and the treatment to be repeated after an interval of not less than ten or more than fifteen days.

(b) Complete immersion in, or thorough saturation by spraying or otherwise, to the satisfaction of the inspector in charge, with an emulsion of crude petroleum, soft water and hard soap, prepared by first mixing these ingredients in the proportion of:—

Crude petroleum.	2 gallons
Hot soft water	$\frac{1}{2}$ gallon
Hard soap	$\frac{1}{2}$ pound

the mixture thus formed to be subsequently diluted with not less than seven nor more than fifteen times its volume of soft water.

‘Treatment with crude petroleum or kerosene in any form other than an emulsion as above described will not be recognized by the department.

‘When approved by the inspector in charge of the district in which the cattle to be dealt with are kept, persons owning or controlling herds of not more than thirty head may be permitted to treat their animals by hand, in which case either the emulsion described above or the following preparation shall be used:—

Sulphur	2 pounds
Oil of tar.	8 ounces
Raw linseed oil.	1 gallon

‘In the event of any owner failing to treat or to make satisfactory preparation for the treatment of his cattle on or before August 1, the provisions of the order in council, dated June 27, 1904, regarding compulsory treatment as quoted below, shall be enforced:—

“Every veterinary inspector, and every person duly authorized by a veterinary inspector shall have full power to order animals affected or suspected of being affected with mange to be collected for inspection, and, when necessary, to be detained, isolated or treated in accordance with the instructions of the Veterinary Director General.

“The expenses of, and incidental to such collection, isolation and treatment shall be borne by the owners of the animals, and if advanced by the inspector or other authorized person shall, until paid, be a charge upon the said animals, without prejudice however to the recovery of any penalty for the infringement of these regulations.

“If such expenses are not paid within twenty days of the time when they have been incurred, the inspector or other duly authorized person may proceed to sell the said animals by public auction after giving the owner ten days’ notice in writing of such intention to sell, which notice may be effectually given, where the owner is known, by delivering the same to him personally or by sending it by mail addressed to him at his last known place of residence. Where the owner is unknown, such notice may be effectually given by publication in one issue of a newspaper published or circulating in the district where such animals are detained. The proceeds of such sale shall be applied first in payment of the reasonable expenses of the collection, isolation, treatment, giving of notice and conduct of sale, and the balance, if any, shall be paid to the owner of the said animals on demand. Any balance not so paid shall be remitted to the Minister, and if not claimed within twelve months from the date of sale shall be paid to the credit of the Receiver General.”

‘The Governor General in Council is further pleased to order that no cattle other than those consigned to Winnipeg or to points in Canada east of Winnipeg, shall be removed or be allowed to move out of the above described tract unless they are accompanied by the certificate of an inspector of the Department of Agriculture, stating that they have been examined by him and have either been found free from contagion of mange, or that they may be shipped for immediate slaughter as hereinafter provided. Any such cattle, however, shall, if deemed advisable by the inspector, be detained, dipped, sprayed or otherwise treated in such manner as the Veterinary Director General may from time to time prescribe.

‘No railway company shall accept or load at any point within the said tract any shipment of cattle destined for any point west of Winnipeg or for export to the United States or elsewhere via any point on the international boundary, west of Winnipeg,

SESSIONAL PAPER No. 15

unless such shipment is accompanied by the certificate of an inspector as above provided.

‘Cattle originating west of Winnipeg, whether within the above described tract, or not, consigned to Winnipeg, or to points east thereof, shall be inspected at Winnipeg, and no railway company shall release such cattle at Winnipeg or load such cattle for re-shipment therefrom until they have been submitted by daylight to an inspector of the Department of Agriculture and certified by him to be free from mange and other contagious or infectious diseases.

‘Cattle found on inspection to be affected with mange or other contagious or infectious disease shall be dealt with as may be ordered by the inspector.

‘At points where cattle originating in the said district are unloaded, they shall be placed in special yards and such yards shall be used for no other purpose and shall be cleansed and disinfected when so ordered by an inspector.

‘All cars and other vehicles used for the carriage of cattle originating within the said tract shall be cleansed and disinfected to the satisfaction of an inspector as soon as possible after being unloaded and before being used for any other shipment.

‘All way bills and bills of lading accompanying shipments of cattle originating within the said tract shall have plainly written or stamped across the face thereof a notification that the said cars are to be cleansed and disinfected immediately after being unloaded.

Cattle infected with, or which have been exposed to the contagion of mange, may be shipped for immediate slaughter to points within the above described tract under the following conditions:—

‘Unless loaded through special yards and chutes reserved exclusively for such shipments, all yards and chutes used by them shall be declared infected places, and shall not be again used for shipment of healthy stock until cleansed and disinfected to the satisfaction of the inspector; they shall not be allowed to come in contact with other animals; shall be consigned direct only to such slaughter houses within the hereinbefore described tract as are provided with private yards and chutes; shall not be unloaded at any point *en route*, and shall under no pretext whatever be removed alive from the slaughter house or the yards and premises immediately connected therewith.

‘Cars conveying such cattle shall be cleansed and disinfected to the satisfaction of an inspector immediately after being unloaded.

The transit of cattle through the said tract is permitted subject to the following regulations:—

‘Cattle for transit by rail through the said tract from one part of Canada to another shall, at points where unloading is necessary, be placed in yards reserved for their exclusive use, and shall not be permitted to come in contact with cattle which have originated within the said tract.

‘Cattle imported from the United States into the said tract destined for points in Canada outside thereof may, under compliance with the quarantine regulations, and with the provisions of the next preceding section hereof, be permitted to pass without unnecessary delay through the said tract direct to their destination without further restrictions.’

No. 17.

CANADIAN QUARANTINE REGULATIONS.

The whole of the quarantine service of Canada is controlled by the Minister of Agriculture. It is administered under him by the Director-General of Public Health.

Each quarantine station is in the immediate charge of a specially appointed medical quarantine officer.

At each unorganized maritime or inland quarantine station, the local collector of customs is the quarantine officer for the purpose of these regulations.

The Governor in Council may, however, from time to time appoint a temporary medical quarantine officer at any unorganized maritime or inland quarantine station, who shall supersede for the time being the collector of customs as the quarantine officer of the port.

THE QUARANTINE STATIONS.

The quarantine stations of Canada are:—

Province of Quebec—

- (a.) Grosse Isle, in the River St. Lawrence, with Rimouski, the Louise Embankment and the Grand Trunk wharf at Lévis, as sub-stations.

Province of Nova Scotia—

- (a.) Halifax, the harbour and Lawlor's Island.
- (b.) Sydney, the harbour and Point Edward.
- (c.) Louisbourg and the harbour.

Province of New Brunswick—

- (a.) St. John, the harbour and Partridge Island.
- (b.) Chatham, the harbour and Middle Island.

Province of Prince Edward Island—

- (a.) Charlottetown, the harbour and Keppoch.

Province of British Columbia—

- (a.) Victoria, the harbour and William Head.
- (b.) Vancouver and the harbour.
- (c.) Prince Rupert, the harbour and the Kinnahan Islands.

Every other maritime port, each such port being designated an unorganized maritime quarantine station.

And every inland port on the Canadian frontier, each such port being designated an unorganized inland quarantine station.

GENERAL PROVISIONS.

1. Every quarantine officer at a quarantine station in Canada, and every customs collector in his quality of quarantine officer, shall for the purpose of these regulations be a justice of the peace in virtue of the provisions of section 7 of the Act respecting Quarantine, chap 74, Revised Statutes.

2. Every person entering Canada, whether through a customs port or otherwise, shall be held to be subject to these regulations.

(a.) Once a person has been released from this outer ring of Dominion quarantine, he or she passes from under the health jurisdiction of this department.

SESSIONAL PAPER No. 15

3. Passengers for the purpose of these regulations are divided into two classes, cabin and steerage. Steerage passengers are those occupying compartments other than those of first and second cabin.

4. The graver quarantinable diseases are; Asiatic cholera, plague, smallpox, typhus fever and yellow fever. The minor: Chickenpox, diphtheria, enteric fever (typhoid), measles and scarlet fever.

(a.) In addition to the above recital, it is the duty of every quarantine officer to satisfy himself as to the presence or absence of any other contagious or infectious disease.

5. It is the duty of every quarantine officer to satisfy himself as to the fact of the presence or absence of leprosy among the passengers or crew; and in the event of any case of such disease being found, the person affected shall not be allowed to enter Canada, but shall be detained at quarantine at the vessel's expense until taken aboard by the same vessel when next outward, and in the event of the vessel failing to take back the said leper, he or she shall be deported by the government at the expense of the owners of the vessel after an interval of fourteen days from the date of the landing of such person unless satisfactory reasons be given for further delay.

6. Every vessel arriving from any port outside of Canada at any organized quarantine station shall be inspected by a duly appointed quarantine officer, at the place duly appointed for such inspection, and shall not be allowed to make customs entry at any port in Canada until it has received a clean bill of health from such officer at such place.

(a.) If a vessel from an infected foreign port bound for a port in Canada, which is an unorganized quarantine station, has first to pass an organized quarantine station, it shall be held to call at such station before proceeding to its destination.

(b.) Within the meaning of these regulations an infected port or country is a port or country where any one of the graver quarantinable diseases above designated exists as an epidemic, or has been communicated to one or more persons through the medium of an infected person, personal effects or otherwise. A port or country is not considered infected when a single case or a small number of cases has been reported, and the disease has not been communicated from such cases.

(c.) These regulations shall also apply to vessels arriving at any port in the province of Prince Edward Island from any port in any other province of the Dominion of Canada that has been declared by the Minister to be infected with any of the graver quarantinable diseases.

7. Coasting vessels from Newfoundland and from ports in the United States contiguous to Canada and, in the case of Prince Edward Island, vessels from ports in other provinces of the Dominion of Canada, and free from infectious disease may, from time to time, be excepted from these regulations by order of the Minister of Agriculture.

(a.) Vessels from Europe touching at Newfoundland ports on their way to a Canadian port will not be considered coastwise vessels under this regulation.

8. After having made customs entry at any port in Canada a vessel, if she proceed to any other port in Canada without first again going abroad, shall be held and regarded as a coastwise vessel and so not subject to these regulations.

9. His Majesty's ships of war and transports arriving at any port in Canada in a healthy condition are excepted from quarantine inspection and detention; but in the event of the presence on board any such vessel of any of the graver forms of quarantinable diseases as designated in section 4, these regulations shall apply as in the case of other vessels arriving from outside of Canada.

10. It shall be the duty of every pilot on boarding a vessel arriving at any port in Canada to furnish the master of such vessel with a copy of the regulations, under the penalty hereinafter prescribed.

11. Every vessel from any port outside of Canada requiring quarantine inspection shall, on arrival at any port in Canada, display a yellow flag at the fore by day, for a

8-9 EDWARD VII., A. 1909

distinctive quarantine signal, in order to inform the quarantine officer that his services are required, and any such vessel arriving by night shall display a red light at the fore for such signal.

(a.) No such vessel shall proceed past the quarantine inspection ground until she has been visited and released by the quarantine officer.

12. Every person who shall be on board any vessel arriving from any port outside Canada at any organized quarantine station, or who shall have gone on board any vessel after such arrival and before such vessel has been inspected by a duly appointed quarantine officer, shall be liable to the provisions of sections 18 and 23, and no such person shall leave such vessel without the permission of such officer until such vessel shall have been declared by such officer free from infectious disease. Any person violating this regulation shall be liable to a penalty not exceeding \$400 and imprisonment for 6 months.

The word 'person' as used in this regulation shall be deemed to include customs and revenue officers and other officers or servants of the Crown being on or going on board any vessel so arriving either in the discharge of their duty or otherwise.

13. Every vessel shall be inspected immediately on arrival.

(a.) With the exception that in periods of the epidemic prevalence of any of the graver quarantinable diseases, or to meet the special requirements of any particular port, the Minister of Agriculture may direct that inspection shall only take place between sunrise and sunset.

14. Every quarantine officer shall satisfy himself as to the presence or absence of infectious disease by the personal inspection of those on board or by the sworn statement of the captain or surgeon, in the form hereto appended, or by both.

15. Every maritime quarantine officer shall, when infectious disease is found on any vessel, notify the immigration agent of the port of the fact so that that official may complete and forward the schedule list of immigrants by destination to the secretaries of the boards of health in the provinces or states to which such immigrants are destined.

16. Passengers during a period of the prevalence in epidemic form of any of the graver quarantinable disease should be notified by steamship agents to dispense as far as possible with luggage that may be injured by wetting, in case of having to undergo disinfection—such as fabrics of which the dyes are likely to run—as the owners will be compelled to assume all risks of injury.

17. Vessels during a period of the prevalence in epidemic form of any of the graver quarantinable diseases should dispense as far as possible with woollen hangings, curtains, carpets, and upholstering, substituting non-absorbing coverings.

(a.) Every vessel carrying cargo, and liable to be disinfected, should have provided a plain frame shaft allowing a clear inside space of 12 inches each way, placed in the main hatch, in a sailing vessel; and one in each hatch of a steamship fitted by bulkheads. The frame work in this shaft to be set before loading and to extend from the hatchway to the bottom of the vessel. This simple arrangement would receive the fumigating pipe and avoid shifting cargo.

18. Every vessel with infectious disease on board, or coming from an infected port or country, shall be liable to be detained at a quarantine station for disinfection or observation, together with its passengers, crew, pilot, &c., luggage and cargo.

(a.) A vessel may be detained at quarantine for disinfection during the time necessary for that purpose.

(b.) The time during which a vessel, its passengers, crew, pilot, &c., may be detained for quarantine of observation is the accepted period of the incubation of the disease quarantined against from the ascertained date of last possible exposure.

19. When any vessel not originally bound for any port in Canada arrives at any seaport of Canada with contagious or infectious disease on board, and is allowed to remain in quarantine at or near such port, the master of such vessel shall pay to the collector of customs at the port the sum of two dollars, head money, for each person

SESSIONAL PAPER No. 15

on board said vessel at the time of her arrival; and the said sum shall be a lien on the vessel, and shall be paid before she shall be allowed to leave the port. R.S., c. 74, s. 11.

20. The master of any such vessel shall, before bulk is broken, have the right of putting to sea with such vessel, instead of allowing her to be quarantined, and if this right is exercised, and the vessel has not arrived at her port of destination, the bill of health shall be returned after the inspecting physician has mentioned thereupon the length and circumstances of the detention and the condition of the said vessel on her putting to sea; Provided always, that before the exercise of such right by the master of such vessel, the inspecting physician shall satisfy himself that the sick of the vessel will be taken care of during the remainder of the voyage; and if any of the sick prefer to remain at such port the said physician shall take care of them. R.S., c. 74, s. 12.

21. Every vessel provided with an isolated hospital for men and another for women, on the upper deck, ventilated from above and not by the door only, may, if the quarantine officer is furnished with satisfactory evidence that such hospital accommodation has been promptly and intelligently made use of, be allowed to proceed after the landing of the sick and those who in the judgment of the quarantine officer may have been immediately exposed to infection, and the disinfection of such parts of the vessel as he may judge to require it; any vessel, however, arriving with any infectious disease, without having such special isolated and ventilated hospital accommodation, or if having it, without satisfactory evidence that it has been promptly and intelligently made use of, shall be liable to be detained for disinfection at a quarantine station.

22. Any vessel detained by order of the quarantine officer shall forthwith be anchored or moored in such position as the quarantine officer shall direct, and its passengers, crew, pilot, &c., shall be retained on board or landed at quarantine as the quarantine officer shall direct.

23. And whilst such ship is so detained no person shall leave the same, nor shall communication be allowed with such vessel, without permission from the quarantine officer.

24. The quarantine officer detaining any ship as aforesaid shall immediately notify the Minister of Agriculture, stating the cause of such detention.

25. In the case of a vessel carrying His Majesty's mails and arriving by the St. Lawrence, clearance certificate shall be from a quarantine officer at Rimouski (or at any other port designated by the minister) or at Grosse Isle, and in the case of every other vessel from Grosse Isle only unless special permission to the contrary be obtained from the Minister of Agriculture.

(a.) In the event of his finding a quarantinable disease on board the quarantine officer at Rimouski (or any other port designated by the minister) shall withhold the final clearance for customs entry which shall only be given to the vessel when she has been released after quarantine inspection at Grosse Isle.

(b.) When, however, in the judgment of the quarantine officer at Rimouski (or at any other port designated by the minister), mails and persons and their effects may be permitted to land at Rimouski (or at any other port designated by the minister) from such a vessel a partial clearance shall be given by such quarantine officer covering only the mails and the persons allowed to land there with their effects. (*Vide Form appended hereto.*)

(c.) With the exception that during a time of epidemic prevalence of one of the graver quarantinable diseases the permission to a mail steamer from an infected port or country to land passengers at Rimouski (or at any other port designated by the minister) may be suspended by direction of the Minister of Agriculture.

(d.) And, in such conditions, the mails only to be landed at Rimouski (or at any other port designated by the minister), and the vessel to proceed to Grosse Isle for inspection.

(e.) In the event of a graver quarantinable disease having occurred on board a vessel during the voyage and where in the judgment of the quarantine officer the outer bags containing mail matter may have been exposed to infection, they shall be left on board the vessel for disinfection at Grosse Isle.

8-9 EDWARD VII., A. 1909

(f.) The quarantine officer at Rimouski (or at any other part designated by the minister) shall telegraph a statement of action taken and the disease for which full clearance is withheld to the quarantine officer at Grosse Isle.

26. With regard to vessels touching at Halifax on their way to St. John, when, after inspection, the quarantine officer at Halifax finds a vessel healthy he shall give a full customs clearance which shall be valid at the port of St. John, and the vessel shall then proceed there coastwise.

(a.) In the event of his finding a quarantinable disease on board the quarantine officer at Halifax shall withhold the final clearance for customs entry which shall only be given to the vessel when she has been released after quarantine inspection at St. John.

(b.) When, however, in the judgment of the quarantine officer at Halifax mails and persons and their effects may be permitted to land at Halifax from such a vessel a partial clearance shall be given by the quarantine officer at Halifax covering only the mails and the persons allowed to land there with their effects. (*Vide* Form appended hereto.)

(c.) The quarantine officer shall telegraph a statement of action taken and the disease for which the full clearance is withheld to the quarantine officer of the port of St. John.

27. Any steam tug or other vessel which shall have towed or otherwise communicated with any vessel of the class of vessels subject to quarantine or quarantine inspection shall thereby be held to the same regulations and requirements as apply to the vessel communicated with.

(a.) If the communication between the vessel and the steam tug is confined to attachment of a rope, afterwards loosed, the quarantine officer may decide to release such tug from quarantine detention.

28. Rags coming from a port or country in which infectious disease prevails may be prohibited, and the name of any port or country so infected shall, from time to time, be published in the *Canada Gazette*.

(a.) Rags arriving from prohibited ports at a quarantine station shall be liable to be burnt or otherwise treated on the order of the Minister of Agriculture based on a report of the quarantine officer.

29. New merchandise in general may be accepted without question.

VACCINATION.

30. Every passenger shall be required to furnish evidence, to the satisfaction of a quarantine officer, of having been vaccinated, or of having had the smallpox.

(a.) Every person not showing satisfactory evidence of having been vaccinated, or of having had smallpox, shall be vaccinated by a quarantine officer or detained under observation.

31. The production of an endorsement of the passenger's ticket, signed by the ship's surgeon, to the effect that the passenger has been successfully vaccinated, and the ship's surgeon's testimony under oath verifying the truth of such certificates or endorsements, may be taken by a quarantine officer as evidence of such vaccination and protection. Such quarantine officer shall, however, from time to time, make personal examination of holders of such certificates to satisfy himself of the manner in which they have been issued.

(a.) The ship's surgeon shall make examination of each steerage passenger as to his or her vaccinal protection as soon as possible after the vessel leaves the port of departure and shall endorse the result of such examination on the passenger's steamship ticket as follows:—

- 'Protected by previous vaccination or smallpox,'
- 'Vaccinated on board,' or
- 'Refused vaccination.'

SESSIONAL PAPER No. 15

(b.) In the event of smallpox having occurred on any vessel, or of the arrival of any vessel from any port or place which has been declared, by proclamation in the *Canada Gazette*, infected with smallpox, every person on board not showing satisfactory evidence of having been vaccinated within seven previous years, or of having had the smallpox within that period, shall be vaccinated by or under the supervision of the quarantine officer or detained under observation.

(c.) Persons who are found by the quarantine officer to require vaccination under the above regulations and who refuse to submit to it shall be landed at the quarantine station subject to detention for observation, and the maintenance of such persons and the pay and the maintenance of such guards as it may be necessary for the quarantine officer to appoint to look after and control them during their detention shall be a charge against the vessel.

(d.) In the case of persons so detained from a healthy vessel the period of detention shall be 18 days, such being taken as the ordinary period of incubation dated from possible infection at the port of departure, and in the case of persons from a vessel in which smallpox has occurred during the voyage the eighteen day period of detention shall date from the landing at quarantine of the persons refusing vaccination.

(e.) A vessel arriving at any quarantine station in Canada will be less liable to detention if the vaccination of all steerage passengers not showing proof within seven years is insisted on before embarkation.

DISINFECTION.

Disinfection under the quarantine service of Canada shall be by one or more of the following means:—

Fire, boiling, steam, formaldehyde, sulphur dioxide, mercuric bichloride solution, carbolic acid solution, formalin, chloride of lime, milk of lime.

Fire.—Thoroughly efficient, but seldom necessary as practically everything can be disinfected by less destructive means.

Boiling.—Articles to be wholly immersed in water actually boiling (100° C., 212° Fahr.) for not less than thirty minutes.

Steam.—Steam should be used for ship's hospital cabins, for all small apartments where it will not do much injury, and for divided steerages where steam pipes are provided as fire protection and the compartments are small.

It is also to be used under pressure with vacuum in special chambers for the disinfection of all clothing and effects that will not be injured thereby.

The exposure to the steam to be for not less than thirty minutes, the steam to be of the temperature of not less than 100° C., 212° Fahr., not greater than 115° C., 239° Fahr.

Articles injured by steam, such as leather, furs, skins, rubber trunks, valises, hats and caps, boots and shoes, bound books, silk, fine woollens and glued articles should not be disinfected by steam. For such articles washing with a disinfecting solution of mercuric bichloride, carbolic acid or formalin should be used. And for those which would be injured by wetting, disinfection by a gaseous agent, formaldehyde or sulphur dioxide.

Formaldehyde.—Such ship's cabins and saloons and articles as would be injured by steam may be disinfected by formaldehyde gas.

This may be evolved by:—

(a.) The free sprinkling or spraying of formalin (40 per cent solution of formaldehyde) on sheets suspended in small closed compartments, 10 ounces per 1,000 cubic feet. One sheet will hold about 5 ounces without dripping.

(b.) The formalin-permanganate method. Seven and a half ounces of potassium permanganate, powdered or in fine needles, and one pint of formalin for each 1,000 cubic feet of room space to be disinfected. *The permanganate must be put in before the formaldehyde solution.* The vessel in which the mixture is made should be of con-

8-9 EDWARD VII., A. 1909

siderable size else the vigorous foaming will overflow. A flaring ten quart tin pail may be used, or if a wide bottom vessel be used it need not be high. If the bottom of the dish be so wide that the requisite amount of permanganate just conceals it and the sides be eight inches high there will be no overflow from foaming or spattering.

The room in either of these methods should be closed up tightly for four hours.

With dry heat from the jacket and partial vacuum where formaldehyde appliances are attached to the chambers for steam disinfection, one hour's exposure. This method has great penetrating power, and is specially applicable to clothing, luggage, &c., that cannot be steamed.

Formaldehyde gas does not injure fabrics nor most colours.

It cannot be depended upon to kill rats, or other vermin, or mosquitoes.

Clothing, textiles and luggage, clean and in good condition, but suspected of infection can be efficiently and least injuriously disinfected by formaldehyde.

Where desired the smell of formaldehyde may be subsequently neutralized by the use of ammonia in liquid or gaseous form.

Sulphur dioxide gas.—(a.) By burning not less than three pounds of finely broken rolled sulphur per 1,000 cubic feet of space. The sulphur may be burned in iron pots standing in vessels of water. Ignition is best accomplished by alcohol.

(b.) Or liquified sulphur dioxide may be used, six pounds of the liquified gas for each 1,000 cubic feet of space.

(c.) Or the sulphur may be burned in a special furnace and the sulphur dioxide blown in by a powder fan.

Fumigation by sulphur dioxide is specially applicable to holds, steerages and other compartments too large for steam or formaldehyde, and which do not contain objects injured by it. It bleaches fabrics or materials dyed with vegetable and aniline dyes. It destroys linen or cotton goods by rotting the fibre through the acids formed. It injures most metals. It is promptly destructive to all forms of animal life. It is therefore specially valuable for the destruction of rats, &c., in plague ships, and of mosquitoes in yellow fever vessels.

In sulphur fumigation the time of exposure should be not less than twelve hours.

Mercuric bichloride.—This disinfectant is used in solutions not weaker than 1 to 1,000 of water. Its solubility is increased by using salt water, or by adding 2 parts per 1,000 of sodium (or ammonium) chloride. It is of use for the spraying, washing and drenching of free surfaces, alleyways, walls, floors, &c., where steam or gaseous disinfection cannot be used. It injuriously affects polished metals. It cannot be depended upon to penetrate substances in the presence of albuminous matters, dejecta, sputa, &c. These are best disinfected by burning or by chloride of lime or milk of lime.

Carbolic Acid.—In solution of 5 per cent this may be used instead of the mercuric bichloride solution for polished metals, bright work, &c.

Formalin (a 40 per cent aqueous solution of formaldehyde gas).—This in 5 per cent solution may also be used as a substitute for the mercuric bichloride solution or carbolic acid. It is non-injurious to metals.

GENERAL.

When it is necessary to disinfect the mails it can be done by steam superheated to dryness, sulphur dioxide or formaldehyde gas. Perforation of the letters facilitates penetration.

A simple method of disinfecting mails in their bags or boxes is by formaldehyde gas. A soft towel or bunch of clean cotton waste may be placed in each bag or box and formalin poured upon it in the proportion of 1 oz. for every cubic foot of air space, leaving the bag or box closed for 5 or 6 hours.

Textiles which are soiled with discharges of the sick or are in any other way presumably deeply infected, must be disinfected by boiling, or by steam, or by steeping in one of the above disinfecting solutions.

SESSIONAL PAPER No. 15

Cooking and eating utensils are to be disinfected by immersing in boiling water or by steam.

In generally infected vessels the bilges should be flushed out with sea or river water and then treated with steam, or one of the disinfecting solutions in large quantity.

33. During a time of cholera or other epidemic, the luggage of immigrants or passengers by every vessel arriving at any port in Canada, whether from an infected or healthy port or country, may by direction of the Minister of Agriculture be disinfected in each case.

(a.) When this disinfection is carried out at a sub-station, subsequent to the inspection and clearance at the main station, the clearance granted by the quarantine officer shall be conditional on the landing of immigrants and their luggage for disinfection.

(b.) The supervising officer of such disinfection to count the immigrants as they land, and if he find the number tallies with that marked on the clearance of the quarantine officer and has satisfactory evidence that all their luggage has been landed with them, he shall countersign the clearance which shall then become valid for Customs entry.

COSTS AND CHARGES.

34. All quarantine inspections, except those under section (45), shall be made without any charge against the vessel.

35. All costs incurred in the maintenance of and attendance upon healthy persons, who may have been exposed to infection, or who have refused vaccination (see section 31c.), detained for quarantine are to be at the charge of the vessel.

(a.) The master of a vessel shall make arrangements with the quarantine officer for the landing of the necessary provisions and for the attendance of stewards for serving them in cases where persons are so landed.

36. Persons sick will be treated and taken care of in the quarantine hospitals at the charge of the government.

37. In the event of a vessel being allowed to proceed, leaving its passengers in quarantine, the subsequent transfer of such passengers from quarantine to the port of destination shall be at the charge of the vessel.

38. The appliances, materials, and labour for disinfection are supplied by the government without charge to the vessel.

UNORGANIZED MARITIME QUARANTINE STATIONS.

39. Every maritime port at which there is no regular quarantine station and no regular quarantine officer permanently or temporarily appointed by the minister shall, for the purposes of these regulations, be constituted an unorganized maritime quarantine station.

40. Every collector or sub-collector of customs at every such unorganized maritime quarantine station shall be the quarantine officer.

41. Any collector or sub-collector of customs in his quality of quarantine officer at any unorganized maritime quarantine station in Canada, if he is informed of or has reason to suspect the presence on any vessel from abroad of any of the graver quarantinable diseases recited in section 4 of these regulations shall order a medical inspection to be made of vessel, crew, passengers, &c., on which such quarantinable disease exists or is suspected to exist.

42. A medical man making such inspection by order of the collector or sub-collector of customs shall, while engaged in such service, be the quarantine medical officer.

43. Every vessel arriving at an unorganized maritime quarantine station from an infected foreign port, or on board of which any death from infectious disease or out-

8-9 EDWARD VII., A. 1909

break of infectious disease has occurred during the voyage, shall remain outside until it receives permission to enter from the quarantine officer.

44. All the regulations applicable to regularly organized maritime quarantine stations shall also apply to every unorganized maritime quarantine station in so far as circumstances will admit.

45. In the event of a vessel arriving at an unorganized maritime quarantine station with quarantinable disease on board, the master shall pay a fee of \$5 for each medical inspection ordered by the quarantine officer, and such fee or fees must be paid before customs clearance is granted.

46. If no disease is found on board a vessel arriving at an unorganized maritime quarantine station and ordered to be inspected by the quarantine officer, the cost of such inspection shall not be a charge against the vessel, but will be defrayed by the government.

(a.) In submitting an account for a medical inspection ordered by him, a collector or sub-collector of Customs shall forward with the same a certificate setting forth the reason for his action (*Vide* Form No. 5 appended hereto).

47. If the disease found on board a vessel, or the history, conditions, or circumstances of a vessel be such as may seem to the collector or sub-collector of Customs to be beyond the capabilities for isolation or disinfection existing at an unorganized maritime quarantine station, he shall at once report the same to the Minister of Agriculture, who may, at his discretion, order that the vessel proceed to an organized quarantine station for quarantine clearance, before being allowed to make customs entry. And in such case the expense of the transfer of the vessel to the organized maritime quarantine station shall be a charge against the vessel.

48. In the case of Prince Edward Island the regulations with regard to unorganized maritime quarantine stations shall apply to vessels from all ports outside of that province.

UNORGANIZED INLAND QUARANTINE STATIONS.

49. Every inland port on the frontier of Canada at which there is no regular quarantine station and no regular quarantine officer permanently or temporarily appointed by the minister shall, for the purposes of these regulations, be constituted an unorganized inland quarantine station.

50. Every collector or sub-collector of Customs at every such inland frontier port shall be the quarantine officer.

51. Any collector or sub-collector of Customs in his quality of quarantine officer at any unorganized inland quarantine station in Canada, if he is informed of or has reason to suspect the presence of any of the graver quarantinable diseases recited in section 4 of these regulations, shall order a medical inspection to be made of the car, carriage, vehicle, boat or thing bringing or suspected of bringing such disease.

(a.) And such collector or sub-collector of Customs is empowered to detain such car, carriage, vehicle, boat or thing until such medical inspection shall have been made to his satisfaction.

(b.) A medical man making such inspection by order of the quarantine officer shall, while engaged in such service, be the quarantine medical officer.

52. And such quarantine medical officer shall have the power to cause vaccination of such persons as he may judge to require it, in the event of their refusing to be vaccinated, to prevent their entry into Canada.

53. The fee payable to such quarantine medical officer for each such inspection shall not exceed the sum of \$5, and in the event of any quarantinable disease being found, such fee shall be payable by the company or owner of the car, carriage, vehicle, boat or thing, bringing such disease.

(a.) In submitting an account for a medical inspection ordered by him the collector or sub-collector of customs shall forward with the same a certificate setting forth the reason for his action (*Vide* form No. 6 appended hereto.)

SESSIONAL PAPER No. 15

54. The customs collector or sub-collector in his quality of quarantine officer shall, on the report of the quarantine medical officer, in the event of any of the graver quarantinable diseases being found, cause the detention of the car, carriage, vehicle, boat or thing, bringing any person ill with such infectious disease until the requirements of these regulations are in his judgment satisfied.

(a.) Any such person shall not be allowed to enter Canada until in the opinion of the quarantine medical officer he or she can safely do so.

(b.) Any car, carriage, vehicle, boat or thing, bringing such person to the frontier shall have the option of returning as an alternative to quarantine detention; or

(c.) The customs collector or sub-collector in his quality of quarantine officer shall in his discretion, on the report of the quarantine medical officer, cause the removal and isolation of such person in any car or boat, set apart for the purpose, or in any suitable building sufficiently separated from other buildings to prevent contact or infection.

(d.) And such quarantine officer may cause the disinfection of the car, carriage, vehicle, boat or thing, bringing such person, by means of formaldehyde, sulphur dioxide, or any other mode of disinfection prescribed in these regulations adapted to the circumstances of the particular case.

55. All the regulations applicable to regularly organized maritime quarantine stations shall also apply to every unorganized inland quarantine station in so far as circumstances will admit.

56. In the event of an epidemic of one of the graver quarantinable diseases prevailing in any part of the United States near which a railway, crossing the frontier of Canada runs, and where there may not happen to be at that point of the frontier any adequate quarantine arrangements and apparatus to cope with an inroad of such epidemic disease, the Governor in Council may, on an order published in the *Canada Gazette*, made on a report, direct the complete cessation of passenger traffic at such point or such restriction thereof as may, in the circumstances, be deemed advisable.

QUARANTINE OFFICERS GIVE ALL NECESSARY ORDERS—PROHIBITED FROM RECEIVING FEES OR GRATUITIES.

57. Every quarantine officer is empowered to give any necessary order, or do any necessary act, to enforce these regulations, and it is his duty to report immediately to the Minister of Agriculture any breach or attempted breach of them.

(a.) No quarantine officer nor other person employed in the quarantine service of Canada shall directly or indirectly receive or take any fee or gratuity or reward for any service rendered to any company, owner, master, crew, passenger, or other person at or detained in any quarantine, maritime or inland.

(b.) Every person to whom the knowledge of any breach of these regulations may come shall forthwith report the same to the Minister of Agriculture.

PENALTIES.

58. Every pilot shall be furnished with printed copies of these regulations, one of which it shall be his duty to hand to the master of every vessel coming from a port outside of Canada, immediately on boarding such vessel, under a penalty of \$50.

60. Every master of a vessel, pilot or other person, shall be liable to a penalty of \$400 and imprisonment for six months, for allowing customs entry of any vessel in the absence of production of a quarantine clearance, in accordance with the requirements of these regulations.

60. Every master of a vessel, pilot or other person, shall be liable to a penalty of \$400 and imprisonment for 6 months, for any contravention of any of the foregoing regulations. The vessel shall be held liable for any pecuniary penalty imposed on the master.

8-9 EDWARD VII., A. 1909

61. Every ship's surgeon or other officer not answering with exact truth any of the questions contained in the form herewith appended shall be liable to a penalty of \$400 and imprisonment for 6 months.

62. Every breach of sub-section (a) of section 57 of these regulations shall be held to be a malfeasance of office, an offence punishable by dismissal.

SESSIONAL PAPER No. 15

No. 1.

QUESTIONS TO BE ANSWERED UNDER OATH TO QUARANTINE OFFICERS BY MASTERS, SURGEONS OR OFFICERS OF VESSELS.

Date

19

1. What is your vessel's name and your name?
2. From what port and on what date did your vessel sail?
3. What is your cargo, and whence taken on board?
4. Are there rags in such cargo?
5. Has your vessel touched at any place or places on her voyage?
6. Was such place or places, or any of them, to your knowledge infected with cholera, smallpox, plague or any pestilential fever or disease?
7. How many persons on board when the vessel sailed? Cabin passengers, ; intermediate, ; steerage, ; cattlemen, ; crew ; Total
8. State whether any person on board during the voyage has been, or is now ill with any of the diseases above referred to, and, if so, how many?
9. Has any person died on board during the present voyage, and if so, state all particulars?
10. Have you satisfied yourself by personal examination of the vaccinal marks that each of the steerage passengers has been vaccinated, and do you swear to the correctness of the endorsements on their tickets as to the vaccinal protection?
11. Have you vaccinated those of them on whom you failed to find such marks?
12. Did the vaccination of the steerage passengers take place at the time of, or before embarking?
13. How many have you vaccinated on your present voyage?
14. Did you or any of the crew or passengers, within your knowledge, land at any place or places within Canada during the voyage?
15. Is any person on board lunatic, idiotic, deaf, dumb, blind or infirm, and, if so, is such person accompanied by relatives or guardians?
16. Have you an isolated hospital for men, and another for women, ventilated from above and not from the passage?
17. Were such hospitals, or one of them, immediately made use of on the occurrence of the disease?
18. Are there any other facts which, in your opinion, should be communicated?
19. Have you personally, during the present voyage, examined each one of the passengers and crew for proof of vaccination within seven years, or of having had the smallpox in that period?
20. Have you vaccinated those of them on whom you failed to find such marks, and, if so, how many?

(Signature)

Master.

(Signature)

Surgeon.

I,

Master,

I,

Surgeon,

do solemnly and sincerely swear to the exactness and truth of the answers to the above questions signed by me.
So HELP ME GOD.

Master.

Surgeon.

Sworn before me at

this

day of

19 .

Quarantine Officer and Justice of the Peace, authorized by Order in Council under R.S., c. 74: 'An Act relating to Quarantine.'

No. 2.

QUARANTINE OFFICER'S CLEARANCE FOR CUSTOMS COLLECTOR.

Port of... ..:19 .

I hereby declare that I have inspected the... ..
Master, and found this vessel to be free from infectious disease or well founded sus-
picion thereof, and it is hereby admitted to pratique.

... ..
Quarantine Officer.

Collectors of customs will take notice of the following regulations:—

Every vessel arriving from any port outside of Canada at any organized quaran-
tine station shall be inspected by a duly appointed quarantine officer, at the place
duly appointed for such inspection, and shall not be allowed to make customs entry
at any port in Canada, until it has received a clean bill of health from such officer at
such place.

Every collector of customs or customs officer shall be liable to a penalty of \$400
and imprisonment for six months, for allowing customs entry of any vessel in the
absence of production of a quarantine clearance, in accordance with the requirements
of these regulations.

These regulations must be strictly observed.
Department of Agriculture,
Ottawa.

No. 3.

QUARANTINE OFFICER'S PARTIAL CLEARANCE FOR CUSTOMS COLLECTOR.

(Vessels for Quebec or Montreal via Rimouski or any other port designated by the Minister.)

Port of... ..19 .

I hereby declare that I have inspected the... ..
Master, and hereby permit the landing therefrom at this port of the mails and of the
following persons with their effects, the vessel to proceed to... ..
for her clearance for customs.

... ..
Quarantine Officer.

Collectors of Customs will take notice of the following regulations:—

In the case of a vessel carrying His Majesty's mails and arriving by the St. Lawrence, clearance certificate shall be from a quarantine officer at Rimouski (or at any other port designated by the Minister) or at Grosse Isle only, and in the case of every other vessel from Grosse Isle only, unless special permission to the contrary be obtained from the Minister of Agriculture.

In the event of his finding a quarantinable disease on board the quarantine officer at Rimouski shall withhold the final clearance for customs entry which shall only be given to the vessel when she has been released after quarantine inspection at Grosse Isle.

When, however, in the judgment of the quarantine officer at Rimouski (or at any other port designated by the Minister) mails and persons and their effects may be permitted to land at Rimouski (or at any other designated by the Minister) from such vessel a partial clearance shall be given by such quarantine officer covering only the mails and the persons allowed to land there with their effects.

Every collector of customs or customs officer shall be liable to a penalty of \$400 and imprisonment for six months for allowing customs entry of any vessel in the absence of production of a quarantine clearance, in accordance with the requirements of these regulations.

These regulations must be strictly observed.

Department of Agriculture,
Ottawa.

No. 4.

QUARANTINE OFFICER'S PARTIAL CLEARANCE FOR CUSTOMS COLLECTOR.

(Vessels for St. John, N.B., via Halifax, N.S.)

Port of.19 .

I hereby declare that I have inspected the Master, and hereby permit the landing therefrom at this port of the mails and of the following persons with their effects, the vessel to proceed to. for her clearance for customs.

. Quarantine Officer.

Collectors of customs will take notice of the following regulations:—
With regard to vessels touching at Halifax on their way to St. John, when, after inspection, the quarantine officer at Halifax finds a vessel healthy he shall give a full customs clearance which shall be valid at the port of St. John, and the vessel shall then proceed there coastwise.
In the event of his finding a quarantinable disease on board the quarantine officer at Halifax shall withhold the final clearance for customs entry which shall only be given to the vessel when she has been released after quarantine inspection at St. John.
When, however, in the judgment of the quarantine officer at Halifax mails and persons and their effects may be permitted to land at Halifax from such a vessel a partial clearance shall be given by the quarantine officer at Halifax covering only the mail's and the persons allowed to land there with their effects.
Every collector of customs or customs officer shall be liable to a penalty of \$400 and imprisonment for six months for allowing customs entry of any vessel in the absence of production of a quarantine clearance, in accordance with the requirements of these regulations.
These regulations must be strictly observed.

Department of Agriculture,
Ottawa.

No. 5.

UNORGANIZED MARITIME QUARANTINE STATIONS.

(To be used by a Collector or Sub-Collector of Customs when certifying to an account for a medical inspection ordered by him.)

.....19 .

I hereby certify that the medical inspection of the.....
from..... was made by my order in accordance with section 41
of the quarantine regulations, for the reason given under letter below:—

(a.) The vessel came in flying a yellow flag.

(b.) The vessel had come from a foreign port declared by the department as
infected.

(c.) I had been informed by of the presence of
infectious disease on board.

(d.) After going on board I had reason to suspect the presence of infectious
disease for the following reasons:—

.....
Collector of Customs.
Port of.....

No. 6.

UNORGANIZED INLAND QUARANTINE STATIONS.

(To be used by a Collector or Sub-Collector of Customs when certifying to an account for a medical inspection ordered by him.)

.....19 .

I hereby certify that the medical inspection of.....
from..... was made by my order in accordance with section 51
of the quarantine regulations.

.....
Collector of Customs.
Port of.....

No. 18.

REGULATIONS GOVERNING THE INSPECTION OF MEATS, 1907.

1. In these regulations, unless the context otherwise requires:

(a.) 'Act' means the 'Meat and Canned Foods Act.'

(b.) 'Minister' means the Minister of Agriculture.

(c.) 'Carcasses' means the carcasses of cattle, swine, sheep, goats or poultry.

(d.) 'Establishment' means any abattoir, packing-house, or other premises in which such animals are slaughtered, or in which any parts thereof or products thereof are prepared for food for export, or are stored for export.

(e.) 'Export' means export out of Canada, or out of the province in which the establishment is situated to another province.

(f.) 'Food' includes every article used for food or drink by man, and every ingredient intended for mixing with the food or drink of man for any purpose.

(g.) 'Inspector' means an inspector appointed under the Act.

(h.) 'Regulations' means regulations made under the Act.

(i.) 'Portions' means the usual cuts, known as sides, quarters, shoulders, hams, bellies, &c., and also entire organs, such as tongues, livers, hearts, &c.

(j.) 'Products' means food prepared from carcasses or portions.

(k.) 'Canada Approved' means that carcasses, portions, or edible products so marked have been inspected and found fit for food.

(l.) 'Rejected' means that carcasses or portions so marked may be rendered into lard or tallow.

(m.) 'Condemned' means that carcasses, portions or products so marked are unfit for food, and shall be destroyed for food purposes.

2. The following regulations shall not apply to any establishment within the meaning of the Act in which the sole products prepared for food for export, or stored for export, are fish, fruit or vegetables.

3. Every animal slaughtered, and all carcasses or products therefrom, prepared for food purposes, shall be inspected, and handled as required in these regulations.

4. The owner or manager of any establishment slaughtering animals, or preparing any carcass or portion thereof for food purposes, and which is intended for export trade, may make application to the minister for inspection, in accordance with the provisions of the 'Meat and Canned Foods Act.' Application shall be in writing, and shall give full particulars as to location, capacity per day, species of animals killed, quantity of meats and products thereof exported. Forms for application will be supplied by the Veterinary Director General on request.

On receipt of an application as above, the minister may, after ascertaining that the facts are as stated, and that the sanitary condition of the establishment applying is satisfactory, make provisions for inspection in accordance with the terms of the 'Meat and Canned Foods Act.'

5. In order that a distinctive mark may be given all carcasses, portions, or products thereof, slaughtered or prepared for food at every establishment at which inspection is maintained, the minister will assign to such establishment a number, which shall be used with the Crown and the words 'Canada Approved,' to mark all carcasses, portions or products thereof, passed as fit for food. Branch establishments may use the same number by placing a serial letter in conjunction with it.

6. At establishments for which inspection is provided the minister shall appoint an inspector to take charge of the inspection, detailing also such assistants as he may deem necessary.

SESSIONAL PAPER No. 15

Inspectors shall, when in the performance of their duties, wear a badge provided by the Department of Agriculture.

7. Establishments at which inspection is maintained shall furnish suitable accommodations for inspectors, such accommodations to include the exclusive use of a room, or rooms, suitable for office purposes, together with such fittings as may be required for the proper conduct of the business of the department connected with such establishment.

The inspector in charge shall be kept fully informed by the management of all details regarding the actual operation of the establishment, and such operation will not be permitted under any circumstances without the knowledge of the inspector in charge, and either under his supervision or that of an inspector detailed by him for that purpose.

Every reasonable arrangement must be made as regards hours of work and other details, for the mutual convenience of the management and the officers of the department.

This section shall have special reference to small establishments situated in the same town, or in close proximity to each other, when two or more are under the supervision of the same inspector.

8. All establishments having inspection shall be suitably lighted and ventilated. All appliances, such as tables, trucks, vats, machines, containers, &c., must be kept clean and sanitary. All steps in the course of production shall be carried on carefully and with strict cleanliness, and under the supervision of an inspector.

Rooms in which carcasses, parts, or products thereof, are prepared, shall be frequently whitewashed or painted, and shall contain facilities for cleansing all equipment.

Employees of the establishment engaged in handling foods must be free from tuberculosis or other communicable diseases, and must observe such general rules as to sanitation as may be deemed necessary by the inspector in charge.

No carcasses or parts thereof entering into the production of food, shall be allowed to come in contact with anything that will contaminate or deteriorate them.

Coverings used by employees to protect their clothing or persons shall be of material easily cleansed.

Dressing rooms and lavatory accommodations shall be ample, sanitary, and fully equipped, and shall be entirely apart from any room or compartment used for the storing or production of food.

The yards and pens belonging to, or used in connection with any establishment shall be maintained in a clean, comfortable and sanitary condition, and shall not be used for the fattening of swine or other animals, nor shall any offal or other refuse from the establishment be utilized for feeding purposes.

Inspectors in charge of each establishment will suggest to the manager or owner any needed changes in the sanitary conditions, and will be required to report weekly to the Veterinary Director General as to the general observance of this section.

Inspectors are authorized to refuse inspection if sanitary conditions are not observed.

9. Inspectors in charge of establishments will be required to furnish to the Veterinary Director General such daily and other reports as may be required.

Proprietors of establishments shall furnish to the inspector in charge, upon request, accurate information regarding receipts of stock, shipments and products on hand.

10. Every animal about to be slaughtered shall be examined by a veterinary inspector in the yards, or pens, of the establishment prior to entering the killing floor. Such establishments shall provide suitable facilities for separating healthy animals from those showing symptoms or suspected of being affected with disease.

Only such animals as are found on inspection to be healthy shall be slaughtered at the regular kill.

8-9 EDWARD VII., A. 1909

Animals found diseased or suspected of being diseased shall be tagged in the left ear with a metal tag, bearing the word 'Held,' and killed separately at the end of the regular kill.

Animals known as cripples and downers shall be tagged 'Held,' and may be slaughtered at the regular kill or otherwise, upon permission of the inspector in charge.

11. Inspectors shall make a thorough inspection at the time of slaughter of the carcass and all portions thereof. If the examination reveals no grounds for detaining or condemning the same, the inspector shall pass and mark such carcass or portions as required in section 13.

If the inspector deem it necessary to hold any carcass or part thereof for further examination he shall mark the same 'Held,' as required in Section 22.

Should the inspection show the carcass or any part thereof to be in any way unfit for food, the inspector shall at the time of inspection mark such carcass or portion thereof with a 'Condemned,' tag as provided in section 24.

Carcasses which may be rendered into lard or tallow shall be marked 'Rejected,' but only after all diseased parts have been removed as provided in section 23.

No part of any carcass shall be removed or so placed as to prevent its ready identification, except with the authority of the inspector.

12. The entire carcass of any animal affected with any of the following diseases or conditions is to be condemned and tanked as hereinafter provided:

1. Anthrax.
2. Black leg.
3. Pyæmia and Septicæmia.
4. Rabies.
5. Tetanus.
6. Malignant catarrh.
7. Hog cholera.
8. Swine plague.
9. Texas fever.
10. Parasitic ictero hæmaturia.
11. Inflammation (chronic or acute) of any of the following tissues; Lungs, pleura, intestines, peritoneum, or uterus.
12. Traumatic pericarditis.
13. Jaundice.
14. Uræmia.
15. Sexual smell.
16. Parturition (carcasses of animals having within ten days given birth to young, if showing signs of septic infection).
17. Immaturity. Every animal under three weeks of age.
18. Tapeworm cysts. *Cysticercus bovis*. *Cysticercus cellulosæ*.
19. Emaciation or anæmia.
20. Tuberculosis. Every carcass affected with tuberculosis and emaciated shall be rejected, together with other carcasses affected with tuberculosis. Except in those cases in which the lesions are small, encapsulated, or calcified, and confined to the following tissues:—

(a.) The cervical lymphatic gland and two groups of the visceral lymphatics in the thoracic or abdominal cavity; for instance, the cervical, bronchial and mediastinal glands, or the cervical, hepatic and mesenteric glands.

(b.) The cervical lymphatics, one group of visceral lymphatics and one organ in the thoracic or abdominal cavity; for instance, the cervical, bronchial and mediastinal lymphatics and the liver.

(c.) Two groups of visceral lymphatic glands and one organ in the thoracic or abdominal cavity; as, for instance, the bronchial and mediastinal lymphatics and the lungs or the mesenteric and hepatic lymphatics and the liver.

SESSIONAL PAPER No. 15

(d.) One group of visceral lymphatics in the thoracic and abdominal cavities and the cervical glands; the bronchial, mesenteric and cervical lymphatics, or the mediastinal, hepatic and cervical.

(e.) Two groups of visceral lymphatic glands in the thoracic cavity, and one group in the abdominal cavity, or vice versa; as for instance, the bronchial, mediastinal and the hepatic, or bronchial, mesenteric and hepatic.

(f.) Carcasses affected as above in which the lesions are in a state of caseation, or show softening centres, and those in which lesions are more numerous than above specified, yet are slight, calcified, or encapsulated, may be rendered into lard or tallow after the diseased parts are removed. Such carcasses must be cooked by steam at a temperature not lower than 220° F., and for not less than four hours.

(g.) Carcasses in which the cervical lymphatics, one organ, and the serous membrane in either the thoracic or abdominal cavity, as the cervical glands, lungs, and pleura, or the cervical, liver and peritoneum. Carcasses so affected may be rendered into lard or tallow. Such carcasses must be cooked by steam at a temperature not lower than 220° F., and for not less than four hours. Every head, organ or part showing lesions of tuberculosis must be 'rejected' or 'condemned.'

21. Actinomycosis and actinobacillosis, except when the disease is confined to the seat of primary infection and the carcass is well nourished and otherwise healthy. The head, including the tongue, or other organ which may be the seat of primary infection, must be destroyed.

22. Portions or products of any carcass showing the following lesions:—

(a.) Decomposition.

(b.) Abscesses, bruises, tumours, parasites. Every organ or part of carcass showing an abscess or tumour, or which is badly bruised or affected with parasites, shall be 'condemned'—(livers, flukes, &c.)

Any condition not herewith described must be dealt with as the judgment of the inspector directs.

The presence at any establishment of an animal affected with or showing symptoms of any contagious or infectious disease, must be promptly reported to the Veterinary Director General by the inspector in charge, who shall take immediate steps to ascertain the point of origin and address of former owner, and place from whence such animal or animals were shipped, at the same time taking further action under the provisions of the 'Animal Contagious Diseases Act,' as he may deem necessary and advisable.

Animals in an advanced stage of pregnancy shall be tagged 'Held.' They shall not be slaughtered at that time nor for ten days after parturition, but may be removed for stock or dairy purposes, provided they are not affected with and have not been exposed to infectious or contagious disease. Before such animals are released, permission shall be granted by the inspector in charge and 'Held' tag removed.

13. Every carcass found to be fit for food shall be stamped by the inspector according to the instructions of the Veterinary Director General. Such stamps shall show the Crown and the words 'Canada Approved,' and the establishment number.

Every portion or organ of any carcass previously inspected and which is to leave the establishment for export trade, shall have a stamp or mark bearing the Crown and the words 'Canada Approved,' and the establishment number. This wording or an abbreviation thereof may be included, with the approval of the Veterinary Director General, in any branding iron or instrument used for the purpose of branding or burning a trade mark or the packer's name upon any portion of swine. This wording shall be legible, and shall be accepted in lieu of other inspection marks. The marking and stamping of all carcasses, portions or products shall be supervised by an inspector.

14. Sausages, canned meats, and portions intended for cure, shall be prepared only from carcasses or portions which have been marked 'Canada Approved,' and which on reinspection are found fit for food. Their preparation and packing shall be supervised by an inspector, who shall not allow any fixture, appliance or receptacle to be used in the production of food, unless the same is clean and sanitary.

8-9 EDWARD VII., A. 1909

No food product shall contain any deleterious substance, drug, dye or preservative.

With the object of preventing the use of deleterious substances, the inspector shall as often as deemed advisable procure samples of the preservatives used, as also of the different food products during their preparation, or after the same have been prepared and shall submit them without delay to the department for analysis.

Inspectors in charge will be furnished by the department with the names of harmless preservatives and dyes which may be used; the addition of others will prevent the approval of the product.

15. The proprietor or manager of an establishment shall upon request of the inspector in charge, furnish to him free of charge any sample or samples of preservatives, food products, or any ingredient used in the preparation of foods. Samples so obtained must be sealed, labelled, and marked with a description of the same, together with the inspector's name, and the date, and forwarded at once to the Veterinary Director General.

16. All portions, or products of carcasses, prepared for food and packed in cans, or similar receptacles, or in any package, shall be subject to inspection during the whole course of preparation and packing; and all such cans or receptacles shall be marked, unless otherwise ordered by the Governor in Council, with :

(a.) The initials of the Christian names, the full surname, and the address, or, in case of a firm or corporation, the firm or corporate name and address of the packer;

(b.) A true and correct description of the contents of the package. No can, receptacle, or package subject to inspection shall be marked with anything which falsely represents the quantity, weight, contents, or date when contents of same were marked.

These requirements shall be embodied upon a trade label, duly approved by the minister, having thereon in addition to the crown and the name and address of packer and description of contents, the Crown and the words 'Canada Approved,' and the number of the establishment. Letters contained in such label shall be of uniform size.

A copy of every label used by each establishment shall be filed with the Department of Agriculture.

In cases where a large supply of trade labels are on hand, a sticker furnished by the department may be used on such labels, having thereon the Crown and the words 'Canada Approved,' and the establishment number. Such stickers may be affixed only under the supervision of an inspector.

17. When carcasses, portions, or products thereof are shipped for export from any establishment, in any case, or covering, concealing wholly or partially the contents, the case or covering shall have a number stamp having thereon the Crown and the words 'Canada Approved.' No other reference to inspection under the 'Meat and Canned Foods Act' shall be placed upon any cover so marked.

Proprietors of establishments shall supply all necessary help to affix labels and stamps, under the supervision of an inspector.

18. After the contents of any package or covering bearing a stamp having thereon the Crown and the words 'Canada Approved' have been removed, the stamp shall forthwith be destroyed.

19. No carcasses or portions thereof other than those bearing the words 'Canada Approved,' and which have been inspected and found fit for food, shall be allowed to enter any establishment at which inspection is maintained, except as hereinafter provided.

(a.) Carcasses, portions or products thereof shipped from the United States, and marked 'U.S. Inspected and Passed,' but to guard against possible deterioration, such carcasses, portions or products shall be reinspected and dealt with accordingly.

(b.) Carcasses, portions or products thereof shipped from other countries, if properly certified, whether by marking or otherwise, to have passed government inspection before leaving the country of origin, but such carcasses, portions or products shall be reinspected and dealt with accordingly.

SESSIONAL PAPER No. 15

- (c.) Dressed carcasses, with the head, heart, lungs and liver, held by their natural attachments, such carcasses to be inspected before entering the establishment, and if found fit for food to be marked with the Crown and the words 'Canada Approved'; if found to be diseased or otherwise unfit for food, to be dealt with as provided in the regulations.
- (d.) Carcasses, or portions, shipped from another establishment at which inspection is maintained, when the shipment is accompanied by a certificate from the inspector in charge of such establishment. Such certificates shall show number of carcasses or portions, together with car number and its initials.

In case of carload shipments, cars should be sealed on both sides, and seals shall be broken only by an inspector or his assistant.

- (c.) Dressed carcasses, with the head, heart, lungs and liver, held by their natural establishment having inspection, unless the inspector in charge or his assistant has been notified.
- (f.) Carcasses, portions, or products thereof, shall be permitted to enter establishments only through such doors, passages, or other means of entrance as are designated for the purpose, and at such times and under such conditions as may be approved by the inspector.

20. Inspectors may at any time reinspect any carcass, portion or product thereof, which has been prepared, stored in or returned to any establishment, or is about to be shipped therefrom. If upon reinspection such carcass, portion, or product is found to be unfit for food, by reason of adulteration or deterioration, it shall be marked and disposed of as provided in the regulations.

21. In every establishment there shall be set apart special rooms or compartments, one to be known as the 'Detention' room, in which all carcasses, portions, or products thereof, marked 'Held,' shall be placed until finally inspected. The other room shall be known as the 'Rejected' room, in which shall be placed all carcasses, portions, or products thereof marked 'condemned' or 'rejected.' Both rooms shall be well lighted, and so constructed and situated that they may be easily cleansed and disinfected. The doors shall be so fitted that they may be locked, with locks supplied by the Department of Agriculture, and the inspector shall retain charge of such locks and their keys.

If, after final inspection, in the detention room, of any carcass, or portion marked 'Held,' the same is found fit for food, the 'Held' tag shall be removed, and the carcass, or portion, stamped as required in section 22. Any carcass or portion marked 'Held,' and which on final inspection is found to be unfit for food, shall be marked as provided in the regulations, and removed at once to the 'rejected' room.

22. If at any time during the slaughter of an animal, or the production of any foods therefrom, the inspector deems it necessary to further inspect the carcass, portion or products, he shall firmly attach thereto a black paper tag, numbered and having thereon the word 'Held.' In all cases where the inspector making the post-mortem examination is not the same individual as the one making the final inspection, the former shall furnish to the latter a description of the animal, disease or symptom thereof and the number of tag. If on final inspection, which shall be made not less than twelve hours later, the carcass, portion or product, is found fit for food, the 'Held' tag shall be removed and the carcass, portion or product marked 'Canada Approved.' Should inspection show the same unfit for food, it shall be immediately marked as provided, and removed to the 'rejected' room for final disposition.

Carcasses showing diseased or injured portions which cannot be readily removed at the time of slaughter, shall be marked 'Held,' and placed in the 'detention' room until after carcass is chilled, when the inspector may, if he sees fit, remove and mark the affected portion, 'Condemned,' and the remainder of the carcass shall be marked 'Canada Approved.'

23. Each carcass, or portion thereof, found on inspection or reinspection to be unfit for food purposes, but the condition of which is such as to allow of its being

8-9 EDWARD VII., A. 1909

rendered into lard or tallow, shall be marked with a numbered red paper tag having thereon the word 'Rejected.'

All carcasses or portions so marked must be cooked by steam at a temperature not lower than 220° F., for not less than four hours.

24. Upon each carcass, portion, or product thereof, found on inspection, reinspection, or during the process of production, to be in any way unfit for food, there shall be placed a black paper tag bearing the number and the word 'Condemned.' All animals found dead, or in a dying condition, upon the premises of any establishment, shall be tagged in the right ear by an inspector with a metal tag bearing a number and the word 'Condemned.' Such tag shall under no circumstances be removed except by the inspector supervising the final disposition of the carcass, portion or product so marked, who shall report as to its disposition.

25. Every establishment having inspection shall be equipped with facilities satisfactory to the department for the tanking of all diseased carcasses, portions, or products thereof. They must be so placed or operated as to cause no odours or fumes to pervade any room wherein carcasses or products thereof are prepared.

All carcasses, portions, or products thereof, which have been marked 'Condemned' shall be tanked as hereinafter provided, under the supervision of an inspector. Tanks shall be sealed and seals broken only by the inspector, who shall see that the process of tanking is sufficiently thorough to render impossible the utilization of any of the condemned carcasses, parts or products in any way for human food. As a further precaution with the above object in view, the minister may authorize the use by inspectors of any colouring or other matter which may be considered suitable. Establishments not having the necessary equipment for tanking will be granted reasonable time in which to provide the same. Until then, inspectors will slash carcasses or portions thereof, in such a way as to render them unsaleable and easily identified, and will in addition be required to supervise their burning or proper burial.

26. No clearance shall be granted any vessel carrying any carcasses, portions, or products thereof (except ship stores), unless said carcasses, portions or products have been duly marked with the Crown and the words 'Canada Approved.' As evidence that this requirement and the provisions of the Act, have been complied with, it shall be deemed sufficient, if a certificate signed by the shipper or by the inspector in charge of the establishment from which the shipment originated has been filed, at the time of filing the manifest, with the Customs authorities by the master, owner or agent of the vessel. Such certificate shall certify that the carcasses, portions or products have been duly inspected and marked according to the provisions of the Act, and shall also contain thereon the number of carcasses, portions or packages, weight, description, shipping marks, shipper, consignee and destination. In the event of the certificate being furnished by the shipper, it shall be in the form provided for similar shipments in section 27.

On request of the owner of an establishment, the inspector in charge shall issue a certificate in triplicate covering any carcasses, portions or products thereof, which have been inspected and marked with the Crown and the words 'Canada Approved,' and which are to be exported. Such certificates shall be issued in serial numbers. The original and duplicate shall be given to the shipper; the original to be attached to the bill of lading accompanying the shipment for the information of the Customs authorities.

27. When any carcass, portion or product thereof intended for human food is offered for transportation, for export, the person, firm or corporation shipping the same shall fill out a certificate in duplicate, in one of the following prescribed forms, which shall be delivered to the common carrier or other person to whom such shipment is offered; and no common carrier or other person shall transport or accept for transportation for export any carcass, portion, or product thereof intended for human food, until such certificate in duplicate has been duly made and signed by the shipper.

(1) To be used when shipment consists of duly inspected and marked carcasses, or parts, or edible products thereof:—

SESSIONAL PAPER No. 15

.....19

Name and address of shipper.....

Name and address of consignee.....

Name of carrier.....

I hereby certify that the following described shipment of carcasses, parts or products thereof, has been duly inspected and marked with the Crown and the words 'Canada Approved,' according to the 'Meat and Canned Foods Act,' and that the articles comprising it have not been tampered with or treated in any way other than by smoking since they were so marked, and that they are at this date wholesome and fit for human food.

No. of packages.....

Weight.....

Description

Shipping marks.....

.....
Signature of Shipper.

(2) To be used when shipment is offered by a retail butcher or dealer:—

.....19

Name and address of shipper.....

Name and address of consignee.....

Name of carrier.....

I,.....herby certify that I am a retail butcher, and that the following described carcasses, parts, or products thereof were from animals slaughtered upon my own premises, and are at this date wholesome and fit for human food.

No. of carcasses or parts.....

Description.....

.....
Signature of Shipper.

(3) To be used when shipment is made by a farmer:—

.....19

Name and address of shipper

Name and address of consignee.....

Name of carrier.....

I,, hereby certify that I am a farmer, and that the following described carcasses or parts thereof, were from animals owned by me and slaughtered upon my own premises, and that at this date the same are wholesome, and fit for human food.

No. of carcasses or parts

Description.....

.....
Signature of Farmer.

28. All certificates must be made in duplicate, and original shall be filed by the initial carrier and the duplicate forwarded by him to the Veterinary Director General.

29. Way-bills, transfer slips, running slips or conductors' cards accompanying any shipment of carcasses, portions or edible products thereof, shall have stamped thereon, or attached thereto the following certificate:—

In case of duly inspected and marked carcasses, parts or edible products:

8-9 EDWARD VII., A. 1909

‘Shipment inspected and marked ‘Canada Approved,’ as evidenced by shipper’s certificate on file with initial carrier.

Railroad company.. . . .
.
Agent.’

In case of shipments made by retail butchers or farmers.

‘Uninspected as evidenced by shipper’s certificate on file with initial carrier.
Railroad company
.
Agent.’

- 30. All carcasses, portions or edible products, stored, packed or in cure at any establishment on September 3, 1907, shall be inspected, and any found unfit for food shall be marked ‘Condemned.’ Those fit for food shall not be marked ‘Canada Approved’ until such time as the carcasses, portions or products are ready for shipment, and upon reinspection at that time are found wholesome.
- 31. No person shall apply the words ‘Canada Approved,’ or any word or words of like meaning or effect, to any article subject to inspection under the Act or to any package containing the same, except under direction of an inspector or with his approval or consent.

SESSIONAL PAPER No. 15

No. 19.

RULES AND FORMS UNDER TRADE MARKS AND DESIGNS ACT AND
TIMBER MARKING ACT.

I.

There is no necessity for any personal appearance at the Department of Agriculture, unless specially called for by order of the Minister or the Deputy, every transaction being carried on in writing.

II.

In every case the applicant or depositor of any paper is responsible for the merits of his allegations and of the validity of the instruments furnished by him or his agent.

III.

The correspondence is carried on with the applicant or his agent, but with one person only, and will be conveyed through the Canadian mails free of charge.

IV.

All papers are to be clearly and neatly written on foolscap paper, and every word of them to be distinctly legible.

Drawings are not to exceed thirteen inches in length and eight inches in width.

V.

An application for registration shall be signed by the applicant or by an agent duly authorized.

A partner may sign for a firm. A director or secretary or other principal officer of a company may sign for the company.

VI.

All communications to be addressed in the following words; To the Minister of Agriculture (Trade-Mark and Copyright Branch), Ottawa.

VII.

As regards proceedings not specially provided for in the following forms, any form being conformable to the letter and spirit of the law will be accepted, and if not conformable will be returned for correction.

VIII.

A copy of the Act and the rules with a particular section marked, sent to any person making an inquiry, is intended as a respectful answer by the office.

IX.

Information as to subsisting registrations will not be furnished by the office, the registers and indexes being open for inspection free of charge.

FORMS.

FORM I.

DOMINION OF CANADA.

The Trade Mark and Design Act.

Application for registration of a General Trade Mark. (To be made in duplicate.)
 I, (or we) _____ of the _____

of _____ in the _____ (of _____
 hereby request that you register in the name of _____
 a General Trade Mark, which I (or we) verily believe is mine (or ours), on account
 of having been the first to make use of the same (or on account of having acquired it
 from _____ who, I (or we)
 verily believe, was (or were) the first to make use of the same). I (or we) hereby
 declare that the said General Trade Mark was not in use to my (or our) knowledge by
 any other person than myself (or ourselves) at the time of my (or our) adoption
 thereof. The said General Trade Mark consists of (*verbal description of the Trade
 Mark*).

A drawing of the said General Trade Mark is hereunto annexed.

Signed at _____ this _____ day of _____
 19 _____, in the presence of the two undersigned witnesses.

Witnesses:

To the Minister of Agriculture,
 Ottawa.

FORM II.

DOMINION OF CANADA.

The Trade Mark and Design Act.

Application for registration of a Specific Trade Mark. (To be made in dupli-
 cate.)

I, (or we) _____ of the _____
 of _____ in the _____ of _____
 hereby request you to register in the name of _____ a Specific
 Trade Mark to be used in connection with the sale of _____
 which I (or we) verily believe is mine (or ours) on account of having been the first
 to make use of the same (or, on account of having acquired it from _____
 who, I (or we) verily believe, was (or were) the first
 to make use of the same).

I (or we) hereby declare that the said Specific Trade Mark was not in use to my
 (or our) knowledge by any other person than myself (or ourselves) at the time of my
 (or our) adoption thereof. The said Specific Trade Mark consists of (*verbal descrip-
 tion of the Trade Mark*).

A drawing of the said Specific Trade Mark is hereunto annexed.

Signed at _____ this _____ day of _____
 19 _____, in the presence of the two undersigned witnesses.

Witnesses:

To the Minister of Agriculture,
 Ottawa.

SESSIONAL PAPER No. 15

FORM III.

DOMINION OF CANADA.

The Trade Mark and Design Act.

Application for registration of an Industrial Design. (To be made in duplicate.)

I, (or we) of of
 in the province of Dominion of Canada, hereby request
 you to register in the name of an Industrial
 Design of a of which I (or we) am (or are)
 the proprietor (s).

I (or we) declare that the said Industrial Design was not in use to my (or our)
 knowledge by any other person than myself (or ourselves) at the time of my (or our)
 adoption thereof. The said Industrial Design consists of (*verbal description of the
 Industrial Design.*)

A drawing of the said Industrial Design is hereunto annexed.

Signed at this day of
 19 , in the presence of the two undersigned witnesses.

Witnesses:

The Minister of Agriculture,
 Ottawa.

FORM IV.

DOMINION OF CANADA.

The Timber Marking Act.

Application for registration of a Timber Mark. (To be made in duplicate.)

I, (or we) of the of
 in the of hereby request you to
 register in the name of a Timber Mark
 which I (or we) hereby declare is not and was not in use to my (or our) knowledge by
 any person other than myself (or ourselves) at the time of my (or our) adoption there-
 of. The said Timber Mark consists of (*verbal
 description of the Timber Mark.*)

A drawing of the said Timber Mark is hereunto annexed.

Signed at this day of
 19 , in the presence of the two undersigned witnesses.

Witnesses:

The Minister of Agriculture,
 Ottawa.

No. 20.

RULES AND FORMS UNDER THE COPYRIGHT ACT.

I.

There is no necessity for any personal appearance at the Department of Agriculture, unless specially called for by order of the Minister or the Deputy, every transaction being carried on by writing.

II.

In every case the applicant or depositor of any paper is responsible for the merits of his allegations and for the validity of the instruments furnished by him or his agent.

III.

The correspondence is carried on with the applicant or his agent, but with one person only, and will be conveyed through the Canadian mails free of charge.

IV.

All papers are to be clearly and neatly written on foolscap paper, and every word of them to be distinctly legible.

All copies of books to be deposited shall be bound in boards, and all copies of maps and photographs shall be mounted.

V.

An application for registration shall be signed by the applicant or by an agent duly authorized.

A partner may sign for a firm. A director or secretary or other principal officer of a company may sign for a company.

VI.

All communications to be addressed in the following words: To the Minister of Agriculture, (Trade-Mark and Copyright Branch), Ottawa.

VII.

As regards proceedings not specially provided for in the following forms, any form being conformable to the letter and spirit of the law will be accepted, and if not so conformable will be returned for correction.

VIII.

A copy of the Act and the rules with a particular section marked, sent to any person making an inquiry, is intended as a respectful answer by the office.

IX.

Information as to subsisting registrations will not be furnished by the office, the registers and indexes being open for inspection free of charge.

SESSIONAL PAPER No. 15

FORM A.

DOMINION OF CANADA.

The Copyright Act.

Application for registration of Copyright. (Except copyright of Original Artistic Work.)

(By the Proprietor.)

I, _____ of the _____
 of _____ in the _____ of _____
 hereby declare that I am lawfully entitled to the copyright of the (1) _____
 entitled ' _____ ' and that
 the said (1) _____ has been printed in Canada; and I
 hereby request you to register the copyright of the said (1) _____
 in my name in accordance with the provisions of the Copy-
 right Act.

I herewith forward three copies of the said (1) _____

Signed at _____ the _____ day of _____
 19 _____, in the presence of the two undersigned witnesses.

Witnesses:

_____ }
 To the Minister of Agriculture,
 Ottawa.

DOMINION OF CANADA.

The Copyright Act.

Application for registration of copyright. (Except copyright of original artistic work.)

(By the Agent of the Proprietor.)

I, _____ of the _____
 of _____ in the _____ of _____
 hereby declare that I am the duly authorized agent of _____
 of the _____ of _____ in the _____
 of _____
 that the said _____ is lawfully entitled to the Copyright of
 the (1) _____ entitled ' _____ ' and that
 the said (1) _____ has been printed in Canada and I
 hereby request you to register the copyright of the said (1) _____
 in the name of the said _____ in accordance with
 the provisions of the Copyright Act.

I herewith forward three copies of the said (1) _____

Signed at _____ the _____ day of _____
 19 _____, in the presence of the two undersigned witnesses.

Witnesses:

_____ }
 To the Minister of Agriculture,
 Ottawa.

(1) Book, map, chart, musical composition, photograph, print, cut or engraving.

8-9 EDWARD VII., A. 1909

FORM B.

DOMINION OF CANADA.

The Copyright Act.

Application for registration of Copyright of original artistic work.

(By the Proprietor.)

I, _____ of the _____
 of _____ in the _____ of _____
 hereby declare that I am lawfully entitled to the Copyright of the (1)
 entitled _____ that the said (1)
 has been produced in Canada and I hereby
 request you to register the Copyright of the said (1)
 in accordance with the terms of the Copyright Act in my name. The following is a
 description of the said (1)

Signed at _____ this _____ day of
 19 _____, in the presence of the two undersigned witnesses.

Witnesses:

}

To the Minister of Agriculture,
 Ottawa.

(1) Original painting, drawing, statue or sculpture.

FORM B1.

DOMINION OF CANADA.

The Copyright Act.

Application for registration of Copyright of original artistic work.

(By the Agent of the Proprietor.)

I _____ of the _____
 of _____ in the _____ of _____
 of the _____ of _____ in the _____
 hereby declare that I am the duly authorized agent of _____
 of _____ that the said _____ is lawfully
 entitled to the Copyright of the (1) _____ entitled '
 ' and that the said (1) _____ has been
 produced in Canada and I hereby request you to register the Copyright of the said (1)
 in the name of the said _____
 in accordance with the provisions of the Copyright Act.

The following is a description of the said (1)

Signed at _____ the _____ day of
 19 _____, in the presence of the two undersigned witnesses.

Witnesses:

}

To the Minister of Agriculture,
 Ottawa.

(1) Original painting, drawing, statue or sculpture.

SESSIONAL PAPER No. 15

FORM C.

DOMINION OF CANADA.

The Copyright Act.

Application for registration of Interim Copyright.

(By the Proprietor.)

I, _____ of the _____
 of _____ in the _____ of _____
 hereby declare that I am lawfully entitled to the Copyright of the (1)
 entitled _____ and I hereby request you
 to register the Interim Copyright of the said (1)
 under the Copyright Act in my name
 A copy of the title or a designation of the said (1) is
 hereunto annexed.

Signed at _____ the _____ day of
 19____, in the presence of the two undersigned witnesses.

Witnesses:

}

To the Minister of Agriculture,
 Ottawa.

(1) Literary, scientific or artistic work.

FORM C1.

DOMINION OF CANADA.

The Copyright Act.

Application for registration of Interim Copyright.

(By the Agent of the Proprietor.)

I, _____ of the _____
 of _____ in the _____ of _____
 hereby declare that I am the duly authorized agent of _____
 of the _____ of _____ in the _____
 of _____ that the said
 lawfully entitled to the Copyright of the (1)
 entitled ' _____ ' and I hereby request you to register
 the Interim Copyright of the said (1) under the
 Copyright Act in the name of the said
 A copy of the title or a designation of the said (1)
 is hereunto annexed.

Signed at _____ the _____ day of
 19____, in the presence of the two undersigned witnesses.

Witnesses:

}

To the Minister of Agriculture,
 Ottawa.

(1) Literary, scientific or artistic work.

8-9 EDWARD VII., A. 1909

FORM D.

DOMINION OF CANADA.

The Copyright Act.

Application for registration of Temporary Copyright.

(By the Proprietor.)

I, _____ of the _____
 of _____ in the _____ of _____
 hereby declare that I am lawfully entitled to the Copyright of the literary work
 entitled ' _____ ' which is being preliminarily
 published in separate articles in a newspaper or periodical and I hereby request you
 to register the Temporary Copyright of the said literary work under the Copyright Act
 in my name.

A copy of the title of the said literary work and a short analysis thereof are here-
 unto annexed.

Signed at _____ the _____ day of
 19 _____, in the presence of the two undersigned witnesses.

Witnesses:

_____ }
 To the Minister of Agriculture,
 Ottawa.

FORM D1.

DOMINION OF CANADA.

The Copyright Act.

Application for registration of Temporary Copyright.

(By the Agent of the Proprietor.)

I, _____ of the _____
 of _____ in the _____ of _____
 hereby declare that I am the duly authorized agent of _____
 of the _____ of _____ in _____
 of _____ that the said _____ is
 lawfully entitled to the Copyright of the literary work entitled ' _____ '
 ' which is being preliminarily published in separate
 articles in a newspaper or periodical and I hereby request you to register the Tempor-
 ary Copyright of the said literary work under the Copyright Act in the name of the
 said _____

A copy of the title of the said literary work and a short analysis thereof are here-
 unto annexed.

Signed at _____ the _____ day of
 19 _____, in the presence of the two undersigned witnesses.

Witnesses:

_____ }
 To the Minister of Agriculture,
 Ottawa.

SESSIONAL PAPER No. 15

No. 21.

IRISH INTERNATIONAL EXHIBITION.

LONDON, March 31, 1908.

SIR,—In view of Canada's participation in the Irish International Exhibition, and in accordance with your instructions that your exhibition staff should make as creditable a display of Canada's natural products and resources as was made in Milan, and better, if possible, I had the necessary plans executed for a more spacious pavilion than Canada has had at any previous exhibition in which we participated. The dimensions of the pavilion were 200 feet long and 90 feet wide, and the architecture was a blending of Renaissance and Elizabethan styles which presented a very nice external appearance.

I am pleased to state that the staff carried out the decoration of the interior, and the installation of the exhibits in a very satisfactory manner.

The contract for the construction of this pavilion was given to Messrs. Humphreys, Ltd., builders, of London, who had obtained from the exhibition committee the sole privilege of constructing buildings on the exhibition grounds. The contractors executed their work to my satisfaction, and I am glad to say the Canadian pavilion at the Dublin exhibition was the first one practically ready to receive visitors. I beg here to cite an extract of the *Dublin Sunday Independent* on the occasion of the opening of the Canadian pavilion: 'The opening of the Canadian pavilion was the great event yesterday, and hundreds of visitors availed themselves of the opportunity of seeing the magnificent collection of the agricultural and mineral products of Canada which were here displayed. The pavilion has already been fully described in our columns, and it is only necessary to say now that it promises to be one of the most popular features of the entire exhibition.'

As was the case in Liège and Milan, the Canadian pavilion at the Irish International Exhibition was the centre of attraction, and the exhibition staff were kept busy giving information about Canada to the many visitors who had relatives in Canada or who were desirous to become settlers.

Many of the Irish people were under the impression that our climate was inhospitable and that we raised very little grain and few vegetables, and had practically no idea of the area of Canada as compared to their own country; but when they realized the fact that tomatoes and grapes thrive and ripen in the open air in Canada, and only do so in a very few favoured spots in Ireland, they would acknowledge that Canada's climate was better than it had been pictured to them. As it is well known, the bulk of the Irish emigration was directed to the United States, and being aware that it was the desire of the Dominion Government to turn this movement towards Canada, or, at least, to show these people that Canada was a better field for agriculturists than the United States, we particularly drew the attention of the visitor to our actual resources and the possibilities of our agricultural, horticultural, mineral and manufacturing industries. Warning was given that Canada desired particularly soil tillers, to open up and cultivate the vast areas of arable lands she possessed and that success was practically assured to the intelligent and thrifty farmer. We held no inducement for the emigration of tradesmen and people engaged in a profession, informing them that there was already a lively competition in those lines in Canada. As an evidence that Canada wanted emigration to be directed to her borders and did not desire to deceive those who might choose to settle in its domains, two placards were conspicuously placed at the main entrance, one reading, 'Caution. Whilst reading matter in

8-9 EDWARD VII., A. 1909

this building is based on facts, do not be influenced by it. Canada wants settlers, but she does not want people who are satisfied with their present conditions to leave their native land.' The other reading; 'Attention. If it is your intention to go to America, remember that United States farmers are going to Canada in great numbers. Canada offers to settlers better inducements than any other country in the world. Canada will receive you with open arms instead of imposing on you an alien tax of \$4 per head.'

Whilst many leading men in Ireland deplored the drain made by emigration, they invariably said: 'If our people will leave home we are satisfied there are better prospects in Canada for them than in any other country.'

Besides the visit made by Their Majesties the King and Queen, we had His Royal Highness the Duke of Connaught, Lord and Lady Aberdeen, and many notabilities, who all expressed their appreciation of Canada's exhibit.

I might also quote here the sentiments of the *Londonderry Sentinel*, which said: 'Extremely popular is the handsome Canadian pavilion at the Dublin International Exhibition, and a great surprise to those who enter its portals expecting to see nothing out of the ordinary. More taste and ingenuity it is safe to say have been bestowed upon the decoration of this pavilion than upon any other in the exhibition. One leaves the Canadian pavilion with the conviction deepened that they who insist on the potentiality of the Dominion do not exaggerate.'

According to your instructions, the same policy followed at the Milan and Liège exhibitions was followed in Dublin. Canada's exhibition here was strictly an exhibition of Canada's natural products, and all displays which could be looked upon as provincial features were carefully avoided. I may say that this manner of exhibiting Canada's products has met with the unanimous approval of all the Canadian visitors at our pavilion.

I can truly say that the Dublin exhibition was a busy season for your exhibition staff. The inquiries received were constant and numerous, and I have every reason to believe that the result of Canada's participation at the Dublin exhibition will be practical and beneficial; and from conversations I had with Canadian emigration officials in England and Ireland, I understand that it has already largely affected the tide of emigration of the Irish people to the United States and directed it to Canada.

I am happy to express my satisfaction for the kind and courteous treatment received from the executive committee of the Irish International Exhibition. I may say that this exhibition was one of the best managed that I have had the pleasure to be connected with.

Some time after the closing of the Dublin Exhibition, I left for London to supervise the construction of the Canadian pavilion at the Franco-British Exhibition, plans of which had been forwarded to the contractors two months previously. After a great deal of correspondence with the executive of the Franco-British Exhibition, and annoying delays of the London City and County Council in finally adopting the plans, which I had to modify several times to suit their demands, the ground was broken and the construction of the Canadian pavilion at the Franco-British Exhibition, Shepherd's Bush, was actually begun the last week of February.

Trusting that the results obtained by Canada from her participation at the Dublin International Exhibition will realize your expectations and prove to be one of the best undertakings of the Canadian Government for the prosperity of the country.

I have the honour to be, sir,

Your obedient servant,

WM. HUTCHISON,

Canadian Exhibition Commissioner.

The Honourable

The Minister of Agriculture,
Ottawa.

No. 22.

REPORT OF CANADIAN COMMISSION, NEW ZEALAND INTERNATIONAL EXHIBITION.

Name.—New Zealand International Exhibition.

Place.—Hagley Park, Christchurch, New Zealand.

Dates.—November 1, 1906, to April 15, 1907.

Size.—Area of exhibit buildings, 30 acres. Area of gardens and experimental plots, 70 acres.

Cost of Building.—£90,000.

Attendance.—Total, 1,966,861, a daily average of 13,949 for the (141) days on which the exhibition was open.

OPENING CEREMONIES.

The exhibition was opened with elaborate ceremonies on the morning of November 1, 1906, in the presence of Their Excellencies Lord and Lady Plunkett, Sir Joseph and Lady Ward and other prominent persons. Speeches were delivered by the governor and premier, in the course of which reference was made to the excellence and size of the Canadian exhibit, and cables of congratulation and thanks were exchanged between Sir Joseph Ward and the Right Honourable Sir Wilfrid Laurier.

The installation and decorating of the Canadian court was completed on the evening of October 31, 1906.

CANADIAN EXHIBIT.

The Canadian exhibit was located in the main building and occupied an area of 14,000 square feet, furnished by the exhibition management at a cost of £1,000. It may be claimed for Canada that her display covered more space than that of any other exhibitor.

Canada's part in the exhibition was a more prominent one, and it may be said without undue pride or exaggeration that her exhibit attracted more attention and elicited more favourable comment than that of any other country exhibiting.

The colour scheme and general plan of the installation of the Canadian exhibit was quite new to the people of that part of the world, and was a feature which attracted so much attention that it became, and continued to be, a subject of universal comment.

To attempt herein to speak of the number and variety of compliments paid to Canada in connection with the part she took at the exhibition would seem effusive and self laudatory, but it might not be out of place to quote the Commissioner for South Australia in his report to the Governor of New South Wales:—

‘Canada had a court which was the admiration of all visitors. It may not be out of place to state that Canada sent a consignment of apples which were thirty days on the voyage and were placed in cold storage on arrival. Every week a case was taken out of the storage and placed on display, and these apples retained their freshness and flavour for five months. The success of Canada is that it is always prepared for exhibitions. The Exhibition Bureau is up-to-date with everything, and as soon as a decision to exhibit is arrived at, the officers of the department are ready to proceed to any part of the world, and all is Canada. There are no separate provinces allowed to form their own commissions, and the result is that the advertisement the Dominion of Canada gets is always worth the money expended. Had the whole of the Australian courts

8-9 EDWARD VII., A. 1909

been combined (like Canada's), and a uniform style of decoration and arrangement followed, the cost would have been much less and the advertising benefits much greater. Unfortunately, Australia was divided into sections apart from each other, in striking contrast to the Canadian court, where all its provinces were merged into one Canada, and where its exhibits of products, photographs of industries, and illustrated books and pamphlets descriptive of the soil, climate and conditions of life made Canada the most widely advertised country throughout Australasia.'

MINERALS.

We were able to utilize, without extra expense, a duplicate collection of minerals, the property of the Exhibition Branch, held in store at Ottawa, besides the necessary number of glass show cases to properly display the same. The Canadian mineral exhibit was the most comprehensive one of its kind at the exhibition, and our scheme of showing the resulting products as well as the ore or mineral as it came from the mine, was most favourably commented upon. Geologists, students of geology and the general public paid special visits to the exhibition from all parts of Australasia, for the express purpose of examining this exhibit which had been most extensively advertised in the press throughout the colony and Australia.

AGRICULTURAL PRODUCTS AND FRUIT.

A section of the court was set aside for a display of fresh apples, preserved fruits, maple sugar, maple syrup, honey, potted cheese, condensed milk and cream, biscuits, cereal foods, whiskey, potatoes, besides agricultural and dairying machinery. Two hundred and ten cases containing (39) varieties of apples grown in British Columbia, were brought over in cool storage. These were arranged on plates, and renewed from time to time as required. The quality and variety of the apples proved an eye-opener to the visitors, who declared them to be superior in every way to those of California, of which a large number are imported each year. The difference in the geographical position of New Zealand as compared to Canada makes it possible for British Columbia fruit and vegetables to be imported at a time when supplies are almost exhausted in New Zealand. As a result top prices are obtainable; for instance, California apples sold freely during September and October of last year at 8d. per lb., while potatoes brought 6d. per lb. at the same time. The existing direct steamship service does not afford cool storage accommodation for transportation of perishable cargo. The installation of cool storage chambers on this line would be the means of increasing trade in both directions. For instance, fruit and vegetables could be handled for the New Zealand market, while New Zealand meat products could be exported to Canada.

Pure maple syrup is absolutely unknown in New Zealand, and our exhibit of the genuine Canadian product aroused much interest. During Easter week we prepared over two tons of maple sugar, putting it up in small cakes of 2 oz. each, and a general free distribution was made to the visitors during that week. Each cake was neatly wrapped up in white paper bearing the following inscription:—

MAPLE SUGAR
WITH
EASTER GREETINGS
FROM
CANADA.

N.Z.I.E. 1906-7. (Sample enclosed.)

The prime object of our participation at this exhibition was to promote trade relations between the two colonies. We found the feeling throughout New Zealand very

SESSIONAL PAPER No. 15

friendly towards Canada and there seemed to be a very general desire for closer trade relations.

The time proved a most opportune one, coming as it did soon after the inauguration of a direct steamship communication between Canada and New Zealand.

One of the most popular things among all classes there is the proposed 'All Red Route' and the mere mention of it in a public way will always bring a spontaneous and hearty response.

MANUFACTURES.

About seventy-five per cent of the space was devoted to the display of manufactured articles, and these were neatly arranged throughout the court in such a manner that visitors were enabled to pass freely among them and examine each article from all sides. The various exhibits bore signs giving the name of the manufacturer in Canada, and the name and address of the New Zealand agent. To each article was attached a neat sign in green and gold, impressing upon the visitors the fact that it was 'Made in Canada.' The Canadian Government, through the Exhibition Branch of the Department of Agriculture, sent out thousands of circulars to manufacturers and advertised freely in the Canadian press, the fact that it was prepared to accept articles made in Canada for display in the Canadian court on the following liberal conditions:—

The Canadian Government offered free transportation, free space, free installation, free care and free attendants and to negotiate for the appointments of agents where the exhibitor was not already represented. About (75) manufacturers responded to this offer, and about (350) tons of exhibits were collected from this source. Arrangements were made with the Alley Steamship Company for the transportation of the exhibits to New Zealand, and the goods were assembled at different centres in Canada and forwarded to Vancouver, where they were shipped by the ss. *Pondo* and arrived in Christchurch about the middle of October.

From reports received from agents in New Zealand and from manufacturers in Canada, a large business has been done as a direct result of the exhibition. Business in lines already introduced has been greatly stimulated, and several lines hitherto unknown in this market have been introduced. Other lines not exhibited were inquired for, and as a result of the information given a large amount of new business was opened up.

A specific report giving full details as to the requirements of this market in the several articles of Canadian manufacture that could be sold in New Zealand might be prepared from an examination of the stocks now being carried by the leading wholesale houses in the different centres.

The manufactured articles displayed in the Canadian court consisted of:—

Mineral water.	Typewriters.
Churns.	Potted cheese.
Rubber goods.	Butter-making machinery.
Boots and shoes.	Metallic roofing.
Cereal foods.	Nails.
Wall paper.	Stoves.
Printing paper.	Ranges.
Manufacture of pulp.	Oil stoves.
Biscuits.	Enamelled ware.
Carriages.	Kitchen utensils.
Wagons.	Filing devices.
Motor cars.	Wind mills.
Bicycles.	Wooden pipe.
Office furniture.	Ladders.
Chairs.	Wooden ware.

8-9 EDWARD VII., A. 1909

Tables.
 Canoes.
 Pulleys.
 Wheels.
 Pianos.
 Organs.
 Butchers' skewers.
 Incubators.
 Wicks.
 Tweeds.
 Whiskey.

Carriage bodies.
 Musical instruments (string and brass).
 Bird cages.
 Wire work.
 Oils.
 Salt.
 Manufactures of mica.
 Manufactures of asbestos.
 Petroleum products.
 Shelf hardware.

The location and construction of our court afforded us ample wall space for the display of pictures of Canadian scenery, charts, maps, &c. Eight large oil paintings showing the advancement of a settler in the Canadian Northwest were of special interest to visitors. In addition to this we had large photos of the Grand Trunk Railway and the Canadian Pacific Railway, showing some of the best natural scenery and physical features along their respective lines. Seventy photos, the property of the Exhibition Branch, showing scenes from different parts of Canada, were also displayed.

LITERATURE.

We were careful not to give the impression that we were sent to New Zealand to do emigration work, but notwithstanding that fact we had hundreds of inquiries regarding the possibilities for settlers in Canada. We had a large number of hand-books entitled 'Dominion of Canada,' these we gave away to responsible parties, and distributed to the different libraries, Chambers of Commerce, &c., throughout the colony.

VISITORS.

We had several distinguished visitors at the Canadian court: among them were Lord and Lady Plunkett, Sir Joseph and Lady Ward, and all the members of the cabinet, the mayors of the different cities, the Lord Mayor of Melbourne, all of whom were loud in their praises of the comprehensiveness of the exhibit and the attractiveness of the arrangement. Our thanks are due to the New Zealand Government, mayor and deputy mayor of Christchurch, executive commissioners, general manager, railway and customs officers, Mr. Th. de Schryver, representative of the Canadian Manufacturers' Association, the Press of New Zealand, and many others whom we came in contact with during the term of the exhibition.

AWARDS.

Owing to irregularities in connection with the judging of the exhibits, we deemed it advisable to withdraw the individual exhibits in the Canadian court from competition. The wisdom of this step is now quite apparent, for the awards are not considered of any value, and in some cases where offered have been absolutely refused.

CLOSING CEREMONIES.

The closing ceremonies took place on the evening of April 15, 1907, on which occasion the New Zealand Government, wishing to recognize in some way the manner in which the Canadian Government had contributed to the success of the exhibition by its excellent exhibit, caused four special premiums to be issued as follows:—

1st. Extra Special Award and Gold Medal for general installation.

SESSIONAL PAPER No. 15

2nd. Special Award and Gold Medal for agricultural products, fruit, maple sugar, honey, &c.

3rd. Special Award and Gold Medal for comprehensive mineral exhibit.

4th. Special Award and Gold Medal for collective exhibit of manufactured articles.

If we may be permitted to make a digression from the affairs of the exhibition, we would like to embody in this report a few observations on the very unsatisfactory state of transportation between the two countries. Everywhere in New Zealand we heard complaints about the length of time it required to get goods from Canada and the uncertainty as to when they would arrive. This interfered very much with the placing of orders with Canadian houses, and in some cases increased to almost a hardship the bulk of the orders placed. This latter is especially true in the matter of printing paper. Four-fifths of the print now used in New Zealand is of Canadian make, and most of the consumers are compelled to carry very large supplies to insure them against running out before the next consignment comes to hand, so uncertain is transportation. In the matter of field and garden seed, one importer told us that his firm could not afford to take the chances of the Vancouver route and had all their Canadian stock sent round by London.

Still more unsatisfactory are the mail facilities. Trade in this age is largely dependent upon postal and cable correspondence. Between here and New Zealand the latter is very expensive, while the former is very unreliable as to date of arrival and delivery.

Permit us also to intimate that among the native products of New Zealand that came under our observation one at least, in our opinion, might be introduced into Canada with great advantage to the latter country. We refer to the native flax plant. But a few years ago many of the low-lying districts in both the north and south islands were looked upon as useless wastes. Now many of these waste places have been converted into the most profitable lands in the country simply by the introduction of the native flax plant. A study of its nature and habits has led us to the conclusion that it would thrive quite as well in the low lands of British Columbia and Southern Ontario, where the frosts of winter are not so severe as further north. The plant requires no cultivation; when once established in the soil it takes care of itself to the exclusion of all other vegetation, and its return per acre is enormous.

T. H. RACE,

W. A. BURNS,

Joint Commissioners.

No. 23.

TOBACCO.

(Report of F. Charlan.)

OTTAWA, March 31, 1908.

SIR,—I have the honour to submit the following report of the work done by the tobacco division, for the year ended March 31, 1908.

The latter part of the spring of 1907 was spent in establishing trial plots in both provinces of Quebec and Ontario, and supervising the operations of preparing and seeding seed-beds at the Central Experimental Farm.

The varieties of tobacco grown at the experimental farm were the Comstock Spanish and Connecticut Seed Leaf. The Connecticut made a slow growth, on account of the cool weather which prevailed throughout the season. The seed used was not, apparently, from a selected strain. It was purchased from a common dealer with no better guarantee of quality than is generally offered in such case.

The plants were poorly developed, the tissue was rather coarse, and the product, being unsatisfactory, was disposed of by retail sales as soon as it was cured, as it was not thought advisable to carry the experiment as far as the sweating stage.

The Comstock variety comprised two different lots. One lot was grown from seed imported two years previous, the other from seed produced in Canada, grown from the first, the year before. The object was to find out whether the seed grown in Canada would give products similar to the imported seed.

There was practically no appreciable difference between the products of the two lots. The season was rather unfavourable (spring late and rainy, summer short and dry, fall cold and damp), and the products obtained were poorly developed, like the Connecticut, but the texture was fairly good. However, so far as the appearance of the plants, the rapidity of growth, and the shape of the leaves are concerned, the results were identical, and we may conclude from this experiment that seed grown in Canada will yield products similar to imported seed, and well adapted to certain requirements of our industry.

The yield suffered greatly from the lack of development of the products. While the yield per acre reached 1,800 lbs. in 1906, the yield of 1907 did not go higher than 1,200 lbs. It should be stated here, however, that the piece of land on which the crop of 1906 was grown was heavily manured in the fall, while the crop of 1907 was grown on corn stubble, unmanured, and already seeded to oats which were ploughed in shortly before the setting out of the seedlings. This was on account of the fact that at the last moment the place of the experimental plot had to be changed, and the field which had been specially prepared for the growing of tobacco had to be abandoned.

Owing to the poor development of the products and the large number of diseases noticed, we gave up the idea of saving seeds from the crop.

The experimental plots established in the province of Quebec were in the parishes of St. Jacques l'Achigan, Montcalm county and of St. Cesaire, Rouville county.

The object of the experiment in the county of Montcalm was to determine the influence of the nature of the soil on the quality of tobacco. All things being equal, it was to be expected that the light clay soils south of St. Jacques would yield smaller and coarser products than the loamy and light soils at the north part of the parish. But the conditions prevailing in the year 1907 do not allow us to form an opinion on

SESSIONAL PAPER No. 15

this matter. The tobacco grew slowly, did not ripen well and yielded a very large proportion of products with a thick tissue.

However, judging from the results of experiments carried on at St. Jacques—results confirmed by the experiments of St. Césaire, as will be seen later—it would appear that fairly close planting gives a better yield in weight than planting wide apart, the tissue is finer and of a better quality, which favours rapid drying, and the yield of 1,000 lbs. per acre which has so far been the average for the Comstock grown in Canada, can be easily made much larger. On the experimental plots of St. Jacques in 1907, in spite of the unfavourable weather conditions, the yield per acre was between 1,000 to 1,200 lbs. per acre.

Two varieties, little known in the province of Quebec, were also tried in 1907, in the parish of St. Jacques.

The first of these, 'General Grant' proved rather early and yielded a well developed product, of fine texture, with a bright colour and easy to cure. This variety called a great deal of attention at the St. Jacques exhibition, held last spring, in which several tobacco manufacturers participated. The 'General Grant' might take the place of the Burley, which does not ripen well in this part of Ontario, owing to the weather conditions.

The second variety, 'Big Ohio,' yields large size products with a somewhat prominent mid-rib, apparently suitable for pipe use, but rather slow in maturing, although earlier than the Connecticut. If this earliness can be maintained, the farmers who are looking for heavy yields in weight and who are now growing the Connecticut for this purpose, would do well to drop this variety, which is very slow in ripening, and adopt the 'Big Ohio.'

Two growers of St. Césaire who had selected for this experiment an alluvial piece of land, much higher than the soil of St. Jacques, obtained yields varying in weight from 1,200 to 1,400 lbs. These yields, much higher than those of St. Jacques, lead us to think that in some parts of Canada the land is not kept in as good a state of fertility as is desirable. Thus a new field for experiments opens to our division: the maintenance of the fertility of the soils on which tobacco is grown and the kinds of fertilizers.

The trials of Comstock Spanish at St. Jacques de l'Achigan and St. Césaire put an end to a controversy which has been going on for two years, as to whether this variety of tobacco could give satisfactory yields in weight. The yield of 1,600-1,800 lbs. per acre obtained in 1906—a favourable year—on the experimental farm at Ottawa seemed to many Canadian farmers an impossibility. In 1907, at St. Césaire, in spite of the poor development of the products, the weight of the crop reached as high as 1,500 lbs., and it is generally conceded that in a normal year, the yield obtained at the experimental farm in 1906 could be duplicated on a number of farms.

A trial in hybridizing, undertaken by a farmer of St. Jacques, met with partial success. Although the weather was rainy and cold when the artificial fertilization was effected, the capsules grew well and apparently ripened well, but the seed obtained, sown in the spring of 1908, did not germinate. It should not be inferred from this that the hybrid 'Havana Seed Leaf—Canelle' is sterile, but simply that the seed did not ripen perfectly, and this is further proved by the fact that seed of another variety, not crossed, supplied by the same farmer, gave a yield of only 25 per cent in a germination trial—a yield much below the average yield of tobacco seed.

The object of the trials with Seed Leaf varieties in Essex county, in 1907, was simply to ascertain what these varieties would do under the climate of this part of Canada.

The trials were not by any means conclusive, and besides, serious mistakes were made which considerably interfered with the results.

The weather conditions were no more favourable in Ontario than in the counties of Rouville and Montcalm, Que., and at the Ottawa Experimental Farm. Considerable injury was done by the variegated cutworms, and some crops also suffered from the caterpillars. Generally speaking, the products were cut over-ripe, and therefore,

8-9 EDWARD VII., A. 1909

their elasticity and their colour were not so good, nor were they in so good a condition for sweating. This mistake, which might have been avoided, had the staff of the tobacco division been larger, is such as might well be expected from farmers familiar with the growing of Burley only, a variety which is cut when the ripening is far advanced and when the crop takes on a light yellow hue.

A variety of the 'Big Havana' kind was tried by an Ontario grower, from imported seed. The product is thick, fairly well developed, but showing a tendency to remain green in curing. Sweating improves it considerably, and develops a straight and pleasant aroma. Although a little strong, the product may be considered as a filler of good quality. We propose to experiment further with this variety if a sufficient quantity of seeds can be secured.

Last fall, I had the opportunity of visiting the valley Okanagan, B.C., where the industry of tobacco growing has been rapidly developing for the last few years.

The progress made by the industry in such a short time is really surprising. I was much pleased also with the quality of the product. The aroma is very fine, very agreeable, much like that of some Havanas. This tobacco would make an excellent filler. The seed is imported from Cuba and renewed every four years.

The Comstock Spanish which is also grown, does not seem to have as bright a future as the Cuban varieties. Owing to the dry climate of the Kelowna valley, it is difficult to obtain products sufficiently well developed and fine enough for the manufacture of binders or wrappers. Irrigation may possibly correct this defect, but it will be necessary to devise a process of irrigation sufficiently economical.

While in Kelowna, I devoted some of my time to the study of various practical questions, and particularly, a program of experiments which will be undertaken in 1908.

I also visited some of the tobacco plantations in Connecticut, Pennsylvania, Wisconsin and Virginia, during the growing period. To complete my inspection a visit to the packing houses later in the season, when the crop was manipulated, would have been necessary, but I could not spare the time to do so, nor could I visit other tobacco producing states such as Kentucky, Ohio and Maryland, as I intended. These trips gave me the opportunity to become acquainted with some of the experts of the U.S. Government, and enabled me to secure some choice seed by means of which I hope we shall be able to introduce some more profitable varieties into Canada.

In the course of my trip, I noticed that the production of seeds was not always done with the necessary care, and I came to the conclusion that we should strive in future to produce our own seeds in Canada, instead of depending for the same upon foreign seedsmen, not always as scrupulous or as careful as they might be. By producing our own seeds we will also get acclimatized varieties.

The growing experiments of 1907 show that some varieties of American tobacco alter very slowly, if at all, under the climate of Canada. The first generations secured from successive crops of Canadian seeds are sufficiently similar to the ordinary American standards. On the other hand, by careful selection, we may perhaps, as intimated, above, fix truly Canadian varieties. The tobacco division has started in this work, beginning with the American varieties which show the greatest improvement.

The year 1907 was marked by an important event: the readjustment of duties on tobacco imported and manufactured in Canada.

All interested in the future of Canadian tobacco—hope that these changes will enable the Canadian tobacco to compete successfully against its rival, the American tobacco. Packers have already begun work, and large quantities of light tobacco from the crop of 1906 have been treated. These products after treatment, have proved very satisfactory, and it is probable that a number of manufactures which have so far remained rigidly closed, will be thrown open to some of our Canadian tobacco, when the quality of the latter is better known.

This division proposes to carry some experiments in sweating, which, although remaining for some time at least, in the theoretical part of the laboratory, may nevertheless prove interesting, in view of the lack of definite information on the products.

SESSIONAL PAPER No. 15

Towards the end of winter, arrangements were made for a series of lectures in the chief tobacco growing districts of the province of Quebec, with a view to diffuse information on the methods of selection and the use of suitable rotations. I found many evidences of the progress made during the last two years by growers of Canadian tobacco, and especially of light tobacco, the products of which on account of the improvements in the methods of growing, will be called upon to supply the packing industry.

On March 25, 1908, I was called to give evidence before the Committee of Agriculture and Colonization. I seized this opportunity to submit to the members of this committee some samples of our home products, as well as some cigars manufactured with Canadian tobacco. Judging from the satisfaction of the audience, I do not hesitate to say that we are making decided progress, and that some of our Canadian products are of excellent quality, and quite suitable for manufacturing purposes. The tobacco division was called upon to prepare the exhibit of Canadian tobacco for the Franco-English Exhibition, and the manufacturers to whom we applied gave us conclusive proofs of their eagerness to help the interests of the Canadian tobacco industry.

I have the honour to be, sir,

Your obedient servant,

F. CHARLAN,

Chief of the Tobacco Division.

The Honourable

The Minister of Agriculture,
Ottawa.

INDEX TO APPENDICES.

PUBLIC HEALTH.

PAGE.

No. 1	Report of the Director General of Public Health, F. Montizambert, I.S.O., M.D., Ed., F.R.C.S.E., D.C.L.	67
	Grosse Isle, Que.	70
	Halifax, N.S.	71
	St. John, N.B.	71
	Sydney, N.S.	71
	Louisburg, N.S.	71
	Chatham, N.B.	71
	Charlottetown, P.E.I.	71
	William Head, Victoria, B.C.	71
	Vancouver, B.C.	71
	Leprosy generally.	71
	Tracadie, N.B., Lazaretto.	71
	D'Arcy Island, B.C., Lazaretto.	71
	Public Works (Health) Act.	71
No. 2.	Report on St. Lawrence Quarantine Station.	72
3.	" Halifax, N.S., Quarantine Station.	74
4.	" St. John, N.B., Quarantine Station.	75
5.	" North Sydney, N.S., Quarantine Station.	76
6.	" Louisburg, N.S., Quarantine Station.	77
7.	" Charlottetown, P.E.I., Quarantine Station.	77
8.	" Chatham, N.B., Quarantine Station.	78
9.	" Victoria, B.C., Quarantine Station (William Head).	78
10.	" Victoria, B.C., Quarantine Station.	82
11.	" Vancouver, B.C., Quarantine Station.	82
12.	" Tracadie, N.B., Leprosy Station.	83
13.	" Public Works (Health) Inspector (C. A. L. Fisher).	84
14.	" Public Works (Health) Inspector (F. F. Chamberlain, M.D.).	100

MISCELLANEOUS.

No. 16.	Regulations relating to Mange.	111
17.	Canadian Quarantine Regulations.	114
18.	Regulations governing the Inspection of Meats, 1907.	130
19.	Rules and Forms under Trade Marks and Designs Act and Timber Marking Act.	139
20.	Rules and Forms under the Copyright Act.	142
21.	Report on the Irish International Exhibition.	147
22.	Report of Canadian Commission, New Zealand International Exhibi- tion.	149
23.	Report on Tobacco.	154

